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ABSTRACT

A study assessed North Carolina's Multi-Purpose Occupational Information System (MPOIS). Evaluated during the study were various dimensions of the MPOIS, including its content, efficiency, operations, training, and outcomes. In addition, the development of the system was examined in terms of how it addresses both the technical and non-technical requirements for the system. In order to evaluate the effectiveness of MPOIS user services, researchers conducted semi-structured interviews with representatives of various North Carolina state agencies. Based on the information obtained during the interviews, the following recommendations were made pertaining to improving the general design and user services of the MPOIS: (1) planners should apply the results of student followup studies to improve MPOIS supply estimates and allocation procedures; (2) the issue of access to the occupational employment survey/occupation matrix and the occupational employment survey data should be resolved; (3) the MPOIS should be configured as a system that can produce regular publications and special reports in addition to its standard outputs; (4) MPOIS planners should resolve reference period problems to appropriately differentiate between latest year data and annualized estimates; and (5) the system's technical advisory committee should be revitalized. (MN)

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Evaluation of the NORTH CAROLINA MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM

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PREFACE

Because the North Carolina MPOIS was one of the earliest attempts to develop a comprehensive OIS in the United States, it is fitting that it should also be the subject of one of the first formal evaluations. During the arduous course of development of the system, we are sure that MPOIS developers must have often felt like the early Christians, remembering that, "it was the early Christians who got the hungry lions."

Being an early developer has its own peculiar curses--and rewards. They must live with the curse of being "second guessed" more often than those who come after when the path is less uncertain. Those who came first have also the satisfactions which come with having launched out and taken those first difficult steps trying to improve the current state of development.

We deeply appreciate the diligence of Lorraine Amico, of the NGA staff, without whom timely contract changes would not have been possible and whose keen interest in the subject matter has made this job much more rewarding.

Finally, we have appreciated the opportunity to work with the North Carolina SOICC these past few months. We are also appreciative of the confidence which they displayed in allowing us to perform this early evaluation. A special thanks is in order to Joyce F. Kinnison, NCSOICC Executive Director, whose professional assistance made this project a great experience for us.

Eugene A. Jurado
Warren W. Wolff

SECTION I

INTRODUCTION

In the Education Amendments of 1976 (P.L. 94-482, Title II, Vocational Education) the Congress mandated that each state and territory and the federal government would develop and implement an Occupational Information System (OIS) for use in planning vocational education offerings consistent with the needs of the labor market. The CETA Reauthorization Act of 1978 (P.L. 95-524) enacted in the next session of Congress expanded the original legislation's mandate to require OIS's to serve CETA planners, as well as assist umemployed youth in need of occupational information.

At the time of the enactment of legislation, few persons had a clear view of what an OIS should consist. The legislation, expressing a general intent, was later clarified by the staff of the National Occupational Information Coordinating Committee (NOICC) and many members of State Committees (SOICC's). The first attempt to delineate the boundaries of an OIS resulted in the Framework for Developing An OIS (1979). Following the issuance of the framework, the content and substance of the OIS was further provided in the three-volume OIS Handbook (1980). The Handbook was developed to assist states in the design and implementation of an operational OIS.

The North Carolina SOICC formally began development of an OIS in March, 1979, prior to the completion of either NOICC document referred to above. Prior to 1979, they had conducted, during 1977-78, an Assessment of User Needs and Availability (1979), which served as a catalyst for initiating a systematic approach to satisfaction of occupational information needs in North Carolina.

The MPOIS represents one state's effort to design and implement a comprehensive (multipurpose) OIS to meet the planning needs of North Carolina, and the Congressional Mandate. Although a few other states have also developed their occupational information analysis and delivery capabilities to an extent to allow them to be referred to as systems, most states are still grappling with the problems inherent in such a large undertaking. Few states have progressed to the point where an evaluation of their OIS would be fruitful or possible. North Carolina, because of their early committment to developing an OIS, offers, for the moment, a unique opportunity to evaluate an operational OIS and draw some conclusions which may be of use not only to the North Carolina developers, but to other states, as well.

An evaluation of the North Carolina Multi-Purpose Occupational Information System (MPOIS) was approved by the North Carolina SOICC, during the Fall, 1981, using funds from the SOICC Basic Assistance Grant. The evaluation was conducted during the period December 15, 1981 to April 15, 1982. The evaluation encompassed an examination of the technical development of the system, as well as a current assessment drawn from developers, users and potential users of the system.

The study was conducted on the MPOIS as it had developed seven months after its implementation in May, 1981. The outside evaluation of the system, early in its operational history, was undertaken in the spirit of a "mid-course correction" to determine the degree to which the development efforts were likely to hit their intended current and future target-users needs. The evaluators were given complete freedom to study all aspects of the system development and access to all pertinent records and documentation.

Such an early evaluation was thought by the NCSOICC to help insure that the MPOIS lives up to its potential to benefit the human resources planning process in North Carolina. That this evaluation took place during a time when the Governor of North Carolina, The Honorable James B. Hunt, Jr., was conducting discussions relative to selection of a lead state agency for development and delivery of labor market information made the evaluation all the more timely.

Finally, as alluded to above, because the MPOIS represents an early operational OIS, it was hoped that an evaluation would be useful to other states, many of which have not yet satisfied the Congressional mandate to implement an OIS.

At the time of this writing, the NOICC was embarking upon an FY '82 competitive grants program to provide Technical Assistance (TA) to states desiring to transport another state's OIS to their state. These TA efforts will extend to planning for system implementation, information development, technical (computer) implementation, staff training in operation and maintenance and in the applications and uses of the transported system. It is hoped that this evaluation will be of use in the technical assistance efforts, as they evolve, in the states funded by NOICC and in other states pursuing OIS development with NOICC basic assistance grants and other available funding.

In summary, just as the North Carolina OIS was designed as a multipurpose system, it is hoped that this evaluation will, likewise, serve multiple-purposes.

SECTION II

EVALUATION METHODOLOGY

A framework for evaluating North Carolina's MPOIS was identified in the original proposal submitted to the North Carolina SOICC. (see Table 1, shown on page 4 and 5.) Particular issues to be evaluated as well as the criteria used for evaluation were defined in the proposed framework. This framework focuses on dimensions of the MPOIS, such as content, efficiency, operations, training and outcomes, rather than on the particular evolution of the MPOIS in terms of factors which have determined its particular characteristics and their relationships with other systems.

During the first phase of the evaluation, it became evident that the proposed framework concentrated on just the internal mechanics of the MPOIS, at the expense, perhaps, of a needed broader perspective which may, in fact, help understand the more significant problems of any OIS start-up and development. This framework will be referred to during the discussion of system design and evaluation of user experience.

To facilitate a broader-based perspective for discussion, a flow chart has been drawn up to capture special interrelationships among OIS development phases. This flow chart, representing "idealized" OIS development, can also serve as the starting point for the evaluation of more specific elements of the MPOIS which are covered under the Framework for Evaluation. In effect, the evaluation has acquired an expanded orientation which will consider the MPOIS developmental processes, in addition to the original focus on the MPOIS technical and user dimensions.

Exhibit 1, Idealized OIS Development Process, (page 7), embodies what the authors believe to be the essential elements of the OIS, as represented in the "Handbook" as well as in established practice. It describes, more fully than the Handbook, the specific roles for the iterative processes by which OIS products are evaluated and redesigned according to the evolving needs, funding resources, information development techniques, and user experience. This continual reassessment of the system and its outputs is stressed very strongly in the OIS Handbook, to wit:[1]

> "The development process does not consist of discrete steps but consists of steps that require reassessment of the development status of supply/demand analysis products. The development process, therefore, is an iterative one which may require the consideration of a given procedure at several steps in the development process to assure that the procedure is applicable."

[1] National Occupational Coordinating Committee, Occupational Information System (OIS) Handbook, Volume 2, Washington, D.C., January 1981, p. 3-2.

FRAMEWORK FOR EVALUATION

CRITERIA	SYSTEM EVALUATION	USER EVALUATION
1. Content	Comprehensiveness- The extent to which output detail satisfies the objectives. The extent of OIS activity directed toward updates and further enhancement.	Comprehensiveness-The extent of user awareness of potential as well as limitations of the data base. User involvement in planning information development and enhancements. Adequacy for multipurpose uses.
	Format- The extent to which the system outputs and formats address requirements for specificity in terms of geographical area, time period and level of aggregation. The extent to which output medium (pre-printed material versus ad-hoc computer printouts) selected maximizes efficiency.	Format-The extent of user satisfaction with the detail and scheduling of the outputs and updates. The extent to which user data needs, both routine and special, are met. Adequacy of mechanism for user feedback and evaluation.
	Credibility- The extent to which production of system outputs are based on accurate input data and reasonable methodology.	Credibility- The extent to which user is satisfied with accuracy/credibility of the information delivered. The extent to which user is aware of the critical assumptions and special problems with the data.
2. Efficiency	Structure- The extent to which flow of work through the total system, from initial user inquiry to information processing and delivery of products, is efficient. The optimal proportion of machine utilization time to personnel utilization time for maximum efficiency.	Structure- The extent of user satisfaction with the inquiry system (is it flexible enough to address a variety of needs?), the quickness of response, and the accessing and billing structures.
	Cost and Revenue- The extent to which operations costs are covered by revenue. Alternatives to lowering costs and/or improving service. What level of program activity and enhancement can be supported by anticipated revenue?	Cost and Revenue- How much system users (agency or individual) are willing to pay for OIS products. What is optimal rate schedule? To what extent are users willing to pay for enhancements to the system?
3. Operations	Access- The extent to which computer is accessible for use by OIS support personnel. The extent to which key data bases to support system are accessible.	Access- The extent to which MPOIS is accessible to current and potential users. The effectiveness of MPOIS marketing.

Table 1

FRAMEWORK FOR EVALUATION
(Continued)

	SYSTEM EVALUATION	USER EVALUATION
	Ease-of-use- The extent to which operation of the system by OIS support personnel has become routine. (The extent to which major operational and technical "bugs" have been worked out.)	Ease-of-use- The extent to which users have adapted to the normal and special uses of the system and are comfortable with its idiosyncracies.
4. Training	Documentation- The extent to which internal documentation has been adequate and kept up with system development.	Documentation- The extent to which training manuals are comprehensive, updated and useful. The extent to which orientation and training workshops have been helpful to users.
5. Outcomes	Conformity to Mandated Guidelines for OIS Development- a) Linkages- The extent to which data collection to support OIS development was obtained from centralized sources. The extent to which interagency committee was involved in OIS development. The extent to which information is disseminated throughout the state system. b) Non-duplication of work- The extent to which MPOIS development and operations address the non-duplication guidelines. The extent to which MPOIS has produced new information through better integration of available data.	Conformity to Mandated Guidelines for OIS Development- a) Linkages- The extent to which technical assistance and training, newsletters, special informational letters,have produced user networks. b) Non-duplication of work- The extent to which the user has been able to use new system outputs which were not otherwise available. The extent to which the user views the system as a threat to his/her position or autonomy.
	MPOIS Success- Has the system been able to deliver according to what was planned?	MPOIS Success- In general, have the products been useful? Did the users get what they expected? Does the system work?

In the following discussion of North Carolina's MPOIS, frequent reference to the flow chart will be made to facilitate the analysis.

In the following sections, the development of the MPOIS will be assessed in terms of how it addresses both the technical and nontechnical requirements for the system.

IDEALIZED (Occupational Information System) DEVELOPMENT PROCESS

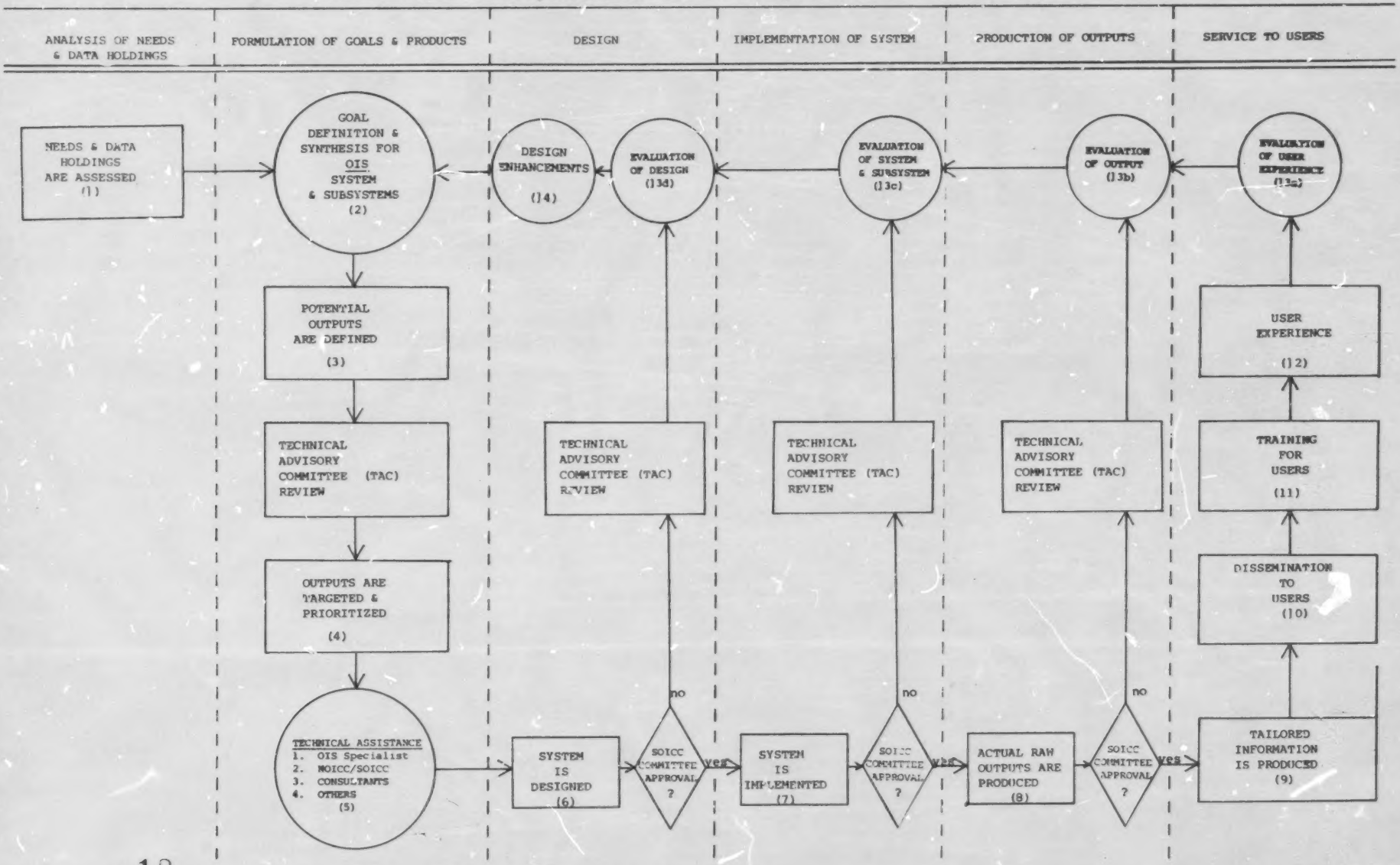

Exhibit 1

SECTION III

ASSESSMENT OF MPOIS DEVELOPMENT

A. Analysis of Needs and Data Holdings (Step 1).

Step 1 seen in Exhibit 1 above refers to the identification and further definition of OIS needs and potential sources for these data. It represents a necessary first step in designing an OIS by delineating "data gaps and overlaps" across agencies, and the intensity and timing of those needs. Information sources, the availability of useful and capturable data, and the mechanism by which these data are processed into meaningful information are primary areas of inquiry during this initial phase.

North Carolina played pioneering roles for the NOICC/SOICC network in conducting the first needs assessment projects for establishing the basis of an OIS, as well as in participating in the efforts which produced the Framework for Developing an Occupational Information System and, subsequently, spearheading the development of the OIS Handbook. U.S. Office of Education funds were used in North Carolina's Statewide Assessment of User Needs and Data Availability for a State OIS (Nov., 1978). Similarly, NOICC special project monies were applied to NC SOICC's second OIS-related work, (June, 1979 to May, 1980), Operationalizing an Occupational Information System. Finally, in order to complete the OIS design and implement the system, funds were provided by the North Carolina Employment and Training Council, for the period June, 1980 through September 1981.

North Carolina's needs assessment project published a report entitled "Establishing the Basis for a Multi-Purpose Local Labor Market Information System: Assessment of User Need and Data Availability." It was the first comprehensive investigation of statewide data needs and resources for OIS purposes conducted anywhere. The study revealed specific data needs for which an OIS could be established and served as a national model for OIS needs assessment. It also identified potential linkages among statewide agencies which could maximize interagency use of available data elements within certain files.

The existence of OIS-related needs in North Carolina was well-documented and the needs assessment questionnaire itself was used as a model for other states which were undertaking a similar needs assessment project.[2] Given North Carolina's initial, but definitive, piece of work on laying out the full picture on OIS needs, OIS development now being undertaken in many states can be geared to a narrower, more defined focus.

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[2] A total of 24 other states used the NC SOICC survey instrument as the basis for designing their own. See North Carolina State Occupational Information Coordinating Committee, Establishing the Basis for a Multi-Purpose Local Market Information System: Assessment of User Need and Data Availability, Raleigh, N.C., Jan., 1979, p. 206.

An equally important part of the North Carolina project was the data holdings survey which consisted of a fairly detailed cataloging of each source "documentation". From each data source, particular elements, characteristics, and limitations which might bear upon system design considerations were listed.

While the existence of data sources was well-documented, the availability of these sources for outright incorporation into the OIS was not fully investigated within the study. Perhaps it was presumed that NOICC or SOICC would be able to surmount some of the existing shortcomings in the lack of a labor market information data network, or that future OIS development work would be able to resolve some of the data access problems. As it turns out, however, for whatever reason, several existing data sources turned out to be basically "unavailable" for OIS purposes. These will be discussed further in the appropriate parts of this study.

B. Formulation of Goals and Products (Step 2 thru 5).

1. Description of Theoretical Process

Following logically from the Needs Assessment project, the next phase, seen in Step 2, indicates the need for a synthesis of goals between the total OIS system and its component subsystems.

The OIS system is, in effect, dependent upon data from other systems over which it has little or no control and for which it promises no supplemental funding. This coordinated approach embodied in the OIS can be easily subjected to problems arising not only from technological issues but also from emerging or suppressed differences in values or objectives between the OIS system and any one of its major subsystems. Therefore, the OIS potential is fully dependent upon good design and, more fundamentally, upon establishing constructive group dynamics which would guarantee good design and a totally supportive and predictable network of data providers.

To this end, the SOICC Committee plays an integral role in the successful development of an OIS because its membership incorporates key agencies from whom major data files are solicited. It also involves those who are major users of OIS outputs, thereby producing a built-in dialogue and a forum for discussions and negotiations about the need, availability, production, and delivery of certain data. The suggested strategy described in the OIS Handbook recommends technical and coordinative processes to be considered in OIS development, in accordance with underlying legislative mandates which established NOICC and which determined its basic philosophy. Given the intent to capitalize on data files released through interagency partnership, there is an understandably heavy focus on the development of coordinative activities, protocols, and interagency agreements regarding all aspects of the OIS process. "Turf" issues need to be addressed in the formulation of specific information development plans, harmonious with the over-all OIS goal. During this phase, an equally imposing task of the SOICC Committee is the determination of the particular type of OIS system to implement to satisfy the users in accordance with the perceived capacity to produce OIS data. Any labor market information system, of which an OIS is a special type, would best serve its users if it were to be able to combine the three types of OIS identified

by NOICC,[3] i.e., the publication-producing, batch-mode and interactive types. Of course, several constraints, including user preferences and costs, conspire to force the designer in the real world to choose one or two of the types but usually not all three.

Moreover, as Yavitz, et al. (1973) point out,

> "It seems clear that the broader the range of users and uses relying on any information system, the less likely are standardized reports to meet all their requirements and, conversely, the more likely is there to be a large demand for the 'special request' capability of the system....uses inherent in a labor market information system inevitably suggest that the future effectiveness of this system will greatly depend on its ability to handle 'special requests'."[4]

A "multi-purpose" OIS system, by design, leans toward the satisfaction of a wider variety of users than a specialized, ad-hoc OIS. The actual determination of OIS target users, its mode and delivery system, would be the object of early SOICC Committee decisions. Likewise, the formulation of goals and the specific criteria by which the attainment of these goals is assessed is determined during this phase.

Taken in conjunction with Step 2, Step 3 represents a preliminary screening of the potential outputs from the system after a thorough and candid examination of all political and technological issues has been undertaken. This is an intermediate step between the conceptual process undertaken in the first two steps and the alignment of specific OIS target outputs which is the next step. The identification of potential outputs in Step 3 yields those remaining outputs which the underlying value systems would permit from the total OIS needs surmised from Step 1, Assessment of Needs and Data Holdings.

Through the OIS, the assimilation of data from other systems to support extended uses for the total network is a cost-efficient approach. The establishment of an OIS may be well justifiable on the basis of economic efficiency criteria.

Steps 2 and 3 consider policy-related issues. This role is appropriately assigned to the SOICC statutory committee which is a policy-setting body. The SIOCC Committee then assigns the Technical Advisory Committee to perform the specialized technical tasks required to set up the defined system. Where certain interagency agreements need to be developed involving data access, funding transfers or specific working relationships, the SOICC committee members would ideally be in high enough position in their own institutional hierarchy to have the authority to commit the agency to a prescribed approach and assign resources and personnel to the tasks.

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[3] Administrative Memorandum No. 81-27, National Occupational Information Coordinating Committee, October 1981.

[4] Boris Yavitz, Dean W. Morse, with Anna B. Dutka, The Labor Market: An Information System, Praeger Publishers, New York, 1973, pp. 102-103.

A further restructuring of outputs occurs next (Step 4). The dominant element in operation here is the consideration of resource (funding) level and its effects as a constraint on the prioritization of specific OIS outputs. Based upon the level of funding, specific types of OIS data can be targeted. Special priority, of course, is typically directed toward the needs of the funding agency. The timing of certain OIS outputs, as well as OIS research pursuits, are likewise, prioritized depending upon the projected (not necessarily, actual) flow of resources. This decision is again ideally made by the SOICC Committee, supported by a technical advisory committee which can deliberate on the mechanics for accomplishing specific OIS tasks and give advice to the SOICC Committee.

Step 5 represents a group process which depends upon constructive interaction of SOICC in-house staff with NOICC/SOICC staff, consultants, program managers, and computer personnel, in order to produce the various modules of OIS design. This is the phase where the OIS specialist/program manager, with the help of programmers and other specialists, designs the OIS system by translating the needs embodied in the "targeted outputs" into particular technical routines, by developing special working arrangements for producing OIS products.

The evolving pattern, therefore, of OIS development can be viewed, like any complex group endeavor, as determined by the dynamic interaction of philosophical-institutional structure (represented by the attitudes which prevail), with its technological capabilities (measured by know-how both available and embedded in practice), and with its resource (funding) base. The particular outgrowth of North Carolina's MPOIS development can be viewed in this light.

2. The North Carolina Experience

The processes which were involved in the needs assessment and other preliminary work in the development of North Carolina's MPOIS reflected the same ideas suggested in the OIS Handbook and discussed in the preceeding section. In fact, North Carolina SOICC's MPOIS implementation project, funded by NOICC special grant monies, was designed to be the first actual test using the "Handbook" approach. This can be surmised from the project's title "Operationalizing an Occupational Information System" and from the project report. North Carolina's role in producing the OIS Handbook for the national and state network clearly presented the opportunity for the North Carolina SOICC to "operationalize" the advocated approach. However, this funded experiment also locked the SOICC into pursuing a more generalized, computer-based OIS mode which would effectively define the "state-of-the-art" by testing both the limits of technology and potential for interagency cooperation. Up to this time, OIS systems in other states faced fewer technical problems and were generally single-purpose reporting systems geared to produce the Vocational Education annual report on an ad-hoc, partially manual, basis.

That the MPOIS development in NC SOICC has been approached differently from other states has been noted by a North Carolina State Advisory Council on Education Report issued in February, 1981.[5] It states that, (instead of modularized development), "the NC SOICC chose to determine the full range of requirements which would be made on its system and to develop a comprehensive MPOIS." Indeed, several alternative modes of OIS systems incorporate different levels of complexity.

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[5] State Advisory Council on Education, The North Carolina Occupational Information Coordinating Committee: A Study of Its Progress, Raleigh, N.C., February 20, 1981, p. 7.

These have been identified and prescribed by NOICC to states embarking upon OIS development. However, given the timing and the background against which the OIS funding and development in North Carolina took place, it is clear that the North Carolina SOICC had to attempt a "comprehensive, multi-purpose" computer-based system, embodied in the MPOIS.

An extraordinarily impressive documentation effort on the part of NC SOICC has permitted the tracking of the SOICC activities in considerable detail. This fact has helped the evaluation effort immensely, but it can also produce a temptation to infer too much from what is written about the deliberation which focused on particular weaknesses and data gaps rather than to evaluate objectively the accomplishments and strengths of the system as it has been implemented.

Appendix A lists, in chronological order, the significant milestones in North Carolina's OIS history. This listing focuses on what was accomplished during each time period and how each phase was related to the next.

A detailed look at the documents and chronology of events, as well as interviews with key OIS actors (see Appendix B), seems to suggest a clear picture of the roles played by the SOICC Committee, the TAC and NOICC, as well as the review processes which took place along the way. The following sections provide a discussion of the roles played by groups who contributed to the OIS.

(a) The SOICC Committee Role in MPOIS Development

Interviews conducted with the SOICC Statutory Committee members in North Carolina indicated very active participation on their part, especially during the very early phases of MPOIS Development, depicted in Exhibit 1 as "Formulation of Goals and Products".

Early SOICC Committee meetings on the MPOIS were described as a process of initially breaking down "turfism" which was a natural reaction for everyone. As the concepts of the MPOIS became clearer and as each SOICC Committee member started to perceive real benefits to his own agency from the MPOIS, the resistance to playing a "broker role" in the exchange of data bases wore away. The actively supportive role played by the Secretary of the Department of Administration was described as having "spill over" effects which influenced everyone to participate in an active and serious vein.

Contrasted to the kind of benefits perceived by the agency planners and direct users of the MPOIS information (see Chapter III-D), the benefits ascribed to the existence of the MPOIS by the Statutory Committee members were more oriented toward the general public good than the need for specific data items. One Committee member saw the system as being useful to people changing careers and that information on skill transferability would in fact help Employment Service increase the total volume of placements, since placements would not be necessarily limited to the occupation on the last job. Another SOICC Committee member saw the MPOIS as providing an opportunity to focus on employer needs and the satisfaction of employer requirements for those jobs as the key to placement of clients in unsubsidized job slots. The idea of "self-help" for clients and providing them with the opportunity to become independent and productive, were benefits which MPOIS information was seen to engender.

The role of the SOICC Committee member in setting the design of the MPOIS was "to boil down and circumscribe" those data sets which are useful and attainable. The Committee participated in two full day meetings where the preliminary design and content of the MPOIS was presented. The next MPOIS version contained fewer data elements than the original draft but was still considered by the SOICC Committee to be unattainable during the first year and thus had to be modified further. The final draft represents an MPOIS version which is immediately implementable but which leaves room for growth and enhancement of the system. The SOICC Statutory Committee acted as a "realism check" in delineating the MPOIS' first-year goals and it provided a clear set of rules and mandates for the Technical Assistance Committee and the MPOIS Staff to attend to regarding design and development of the MPOIS.

(b) The Technical Advisory Committee (TAC) Role in MPOIS Development

A total of fourteen Technical Advisory Committee meetings took place over 2½ years. The first ten meetings were held weekly during the period June to September, 1979. These meetings were geared at evaluating the findings which were contained in the Needs Assessment Final Report and defining the OIS content and data sources.

After the last of the first series of meetings, the preliminary version of the MPOIS design proceeded. This task was handled by NC SOICC Staff, with help from the Management Systems Division of North Carolina Department of Administration which drafted ADP design specification on the Data Base File, Processing, and Inquiry Systems. The SOICC Signatory Committee was also heavily involved in the review of the OIS draft design and basically took over the functions of the Technical Advisory Committee. This was not judged to be unusual since TAC members often participated in SOICC meetings and sometimes represented the signatory members in those meetings.

The Technical Advisory Committee itself was composed of eight designated persons representing the major data user and producer agencies: Employment Security Commission, Department of Public Instruction, Department of Community Colleges, Vocational Rehabilitation Services, and Employment and Training Council. Although the TAC worked smoothly and was able to give good advice on strategies for data access and use, it was plagued with high turnover among its membership and inconsistent attendance during some of its meetings. For instance, a total of 25 different persons actually attended the 14 meetings and only four of these persons had been to at least half of the meetings.

Given the nature of participation in such meetings, the experience in North Carolina is probably better than one might have expected. The establishment of either a formal or informally constituted TAC is certainly important, as the North Carolina experience has shown. Furthermore, interchangeability between TAC and SOICC membership appears to be of benefit, as long as roles are adequately delineated.

The Technical Advisory Committee next met in April 1980 to review the final draft design which had been approved by the SOICC Committee. In June 1981, the TAC met to review the preliminary MPOIS outputs. The next meeting was in September, 1981 which reviewed the results of the MPOIS orientation sessions which were held during the summer and which solicited comments from TAC members based on feedback from MPOIS users in their agency.

The TAC meeting of June 1981 came about 14 months after the prior meeting. As a consequence, there were a lot of new faces. "Concerns," which appeared to have been settled earlier, were being restated. Also, it appeared that the TAC role needed to be defined again, even though these roles had been delineated earlier.

The original TAC members were designated when the North Carolina SOICC was formed, but personnel turnover and other circumstances brought in new people who had not been properly oriented to the TAC function. The perceived lack of definition of the TAC role, however, appeared to have been settled during the next two meetings. In fact, as of the last TAC meeting (February, 1982) the TAC was completely back on track, in regard to functioning as a technical advisory body. This meeting was completely focused on the issues around the use of the Classification of Instructional Programs (CIP) to replace the USOE and HEGIS codes. Also, the process for code match-up and review of the cross-walk(s) was also planned and coordinated.

In retrospect, communications regarding technical developments in the MPOIS should have been continued to be disseminated to all who could be identified as potential participants in TAC meetings. For the present, efforts to maintain TAC "momentum" and continuity should be pursued, even in a situation where most of the deliberations and decisions are taking place within a smaller SOICC group setting. This is not an easy undertaking because of the large number of "floaters" in the TAC meetings, but it could partially be resolved by the SOICC Committee's identifying key members of the TAC committee and having those members formally designated or assigned to the TAC function.

(c) The Review Process

As mentioned previously, the nature of an OIS requires continual reassessment of the procedures and products. The review processes which have occurred within MPOIS were reasonably good attempts given the circumstances and a relatively short time frame for delivery. For instance, during the specification of outputs, a significant retargeting of outputs occurred based on what was deemed to be attainable.

Starting from what had been a heroic attempt to provide some 150 major pieces of information in the preliminary OIS draft model, the 30 which remain comprise all of the data sources which are currently "available". Major data gaps still exist as the result of the absence of data files which had been promised earlier but not delivered. The system, itself, has been designed to accept new data files without much trouble. The MPOIS review process was initiated in early 1981. This review was targeted primarily to the SOICC Statutory Committee (Feb., 1981) and to users-at-large (Summer, 1981). The TAC was not used in its most appropriate role as a prime reviewer of the system, for reasons mentioned earlier. However, on-going MPOIS review did take place and was reasonably thorough.

It is also possible, had there been a larger representation during the design period from January, 1980 to August, 1980, many data availability issues might have been reviewed promptly and resolved adequately. It is unfortunate that TAC representation did not extend at that time to any of the nine key persons cited as the source for the data files and from whom agreements had been made

to receive the data.[6] In addition to the access to the data files which TAC members might have facilitated, their knowledge of the data file characteristics and the potential of converting such data to useful information may also have proven invaluable.

(d) Technical Assistance to OIS: The NOICC Role

At the time the MPOIS was being developed, the exact role of NOICC in providing technical assistance to OIS ventures had not been defined in an operational context. Certainly as the MPOIS development was at the cutting edge of OIS system technology, many of the unobserved deficiencies of the theoretical premises underlying OIS development efforts (as suggested in the OIS framework document) were starting to show.

Primary among these difficulties was the lack of a suitable crosswalk structure and implementation strategy which would allow each state to best provide a multi-faceted interface among data sources. It would have been very helpful if at that time NOICC would have been able to provide a technical paper on the crosswalk problem. However, NOICC staff did spend 1½ days in North Carolina discussing the SOC-to-OES crosswalk issue. A draft report on the SOC-to-OES Interface was published by NOICC in late 1981. Guidance on the use of the VPO versus the BLS[7] crosswalk tapes would have also been helpful, along with the referenced report.

The amount of confusion over the crosswalk issue and technical problems with the original data tape caused several months of anguish and delay in North Carolina (and, presumably in other states as well.) For MPOIS, it precipitated the use of an in-house allocation methodology for crosswalk purposes which was not ideal but was the best available strategy. Moreover, that problem has not yet been fully resolved.

Another particularly difficult problem where NOICC could have helped was in establishing, on the national level, interagency agreements to receive pertinent data files. Unpublished Occupational Employment Survey (OES) data could not be accessed by MPOIS because of "confidentiality" reasons and because NC SOICC was not one of the "authorized" persons or agencies to receive the data. While it is understandable that many data files, even Department of Labor Job Corps and WIN data files, may have been difficult to obtain, there is hardly any excuse for OES data not to have been made available to MPOIS. Interpretation of policy emanating from the federal level was unduly restrictive in the case of OES data release. Certainly a system which is mandated to use OES data should have access to such data, within the limits of confidentiality guidelines. (Subsequent to this evaluation, the problem is being discussed among representatives of NOICC, BLS, SOICC and the LMI Branch of North Carolina with resolution still to be achieved.)

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[6] Management System Division, North Carolina Dept. of Administration, Multi-Purpose Occupational Information System: System Design Specifications, August, 1980, pp. II-1 to II-4.

[7] National Occupational Information Coordinating Committee, Interfacing the SOC System with OES System, Washington, D.C., 1981

Some of the problems cited above will likely be faced, to one degree or another, by other SOICCs attempting to produce a consolidated OIS. In the North Carolina experience, there have been problems in OIS development, implementation and review which have arisen out of both technical and organizational concerns. Many of these problems lend themselves only to solutions which take place within an organizational context, approved and supported by the group. Only with such group support can a technically sound, but unilaterally-conceived, solution be guaranteed to succeed.

C. Evaluation of Specific System Elements (Steps 6 through 8)

In the following sections, reference to the Framework for Evaluation will be made inasmuch as this "framework" is more apropos to the examination of specific MPOIS components. This "framework" was introduced in pages 4-5 and lists specific criteria for evaluation. These elements, which are being evaluated, are represented in steps 6, 7, and 8, in the OIS Development Process exhibited on page 9.

1. Content

MPOIS's development in North Carolina underwent a well-defined iterative process by which output targets were stated and redefined, given constraints related to availability of data, technology, funding and timing. All the available and useful data were, in fact, captured and made to relate to each other via the crosswalk.

The format itself addresses sub-state data requirements extremely well; it also leaves room for the eventual incorporation of major data elements such as private secondary schools, proprietary schools, WIN, Job Corps and Vocational Rehabilitation. Conspicuously absent from the system for reasons described earlier are OES survey data which could have been used to define better the projected job needs. A provision to incorporate prior year data after the first year's experience is also present. Updates to the system are adequately provided for, based on system data base maintenance procedures.

Data represented on the supply side are by enrollment detail whereas on the demand side, "SOC-based" job needs are portrayed. This demand figure is fixed for any number of training programs which are related to the same SOC code. No projections are made on the supply side, nor are any adjustments made on the enrollment figure which would indicate how many jobs in the labor market can be expected to be filled by this volume by enrollments (based on completion rates and incidence of trained individuals who obtain training-related jobs).

Student follow-up surveys have been conducted recently in North Carolina. Plans are underway to incorporate the results of the follow-up into the MPOIS system for possible use in deflating total "supply" figures based on the ratios produced by the study. After a historical series on enrollments and completers has been accomplished, a two- and five-year projection (coordinated with Vocational Education) should be attempted.

North Carolina's attempt at introducing "SOC-based" demand figures is commendable and anticipated what now appears to be a national standard. Localization of job needs has also been attempted by using the occupation-to-industry ratios (from the Statewide OES Matrix.) After OES-to-SOC ratios have been developed by NC SOICC, these are then applied to local area employment estimates. Contents of the "Allocation Master File," shown in Appendix D are re-examined on a periodic basis.

The obvious shortcoming of the North Carolina methodology for sub-state estimates is that, in effect, statewide staffing patterns (albeit, converted to SOC) are used for the smaller area, regardless of the differences in size of firms and the problems presented by the high level of aggregation of available industry estimates. Some improvement, perhaps, could have been accomplished through the use of alternative estimating methods which allow for differences in size of firms and industry activity. This could have "calibrated" the estimates to the industry composition of the smaller area. This would have required, however, much more expense as well as greater cooperation from the OES survey program which was not evidenced during the development stages.

The crosswalk mechanism used in the North Carolina MPOIS project has been described as being the singular component of the system which will determine MPOIS success.[8] Although doubtless an important feature which permits cross-referencing across data files and adds to the total information content of the system, the key element in any information system remains the contents and quality of its data files.

The very basic crosswalk scheme typified in the VPO and BLS crosswalk tapes merely presented relationships among different titles and coding structures, without numerically defining percentages (ratios) for those relationships. Depending on the level of analysis desired, these nonnumerical "VPO-type" crosswalk relationships can be used for a broad "cluster" of defined-to-be related codes. Use of such broad "cluster" groups may not be appropriate if the analyst/planner desires to get at very specific numbers of labor shortage or surplus by detailed occupation. This, however, is technically impossible, given gaps in both supply and demand data and crosswalking problems.

The problem is already well stated in a Massachusetts study,[9] as well as in the SOC-to-OES interface report, cited earlier. Nevertheless, the basic proposition to understand is that crosswalking cannot be accomplished universally across the major structures in a numerically-defined basis unless the crosswalk is produced at the DOT level. Moreover, unless there is a way to allocate employment at the DOT level, major coding structures cannot be interfaced with each other without overlap.

If DOT-based employment estimates were possible, or could be contrived, all the numerical allocations across all coding structures would automatically fall out (assuming that work on defining relationships from DOT to all other coding structures is completed).

The calculation of "allocation factors", moreover, would have to be done for all geographical areas of interest, since DOT occupations are not equally represented in all sub-state areas. As a result, the use of the cluster-approach is probably the best alternative for use in supply and demand analysis.

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[8] For instance, the SACE Report (p. 6) states "The MPOIS crosswalk is the key to the quality of information which the NC SOICC will provide."

[9] Massachusetts Occupational Information Coordinating Committee, Efforts to Match Information on the Demand and Supply of Labor in Massachusetts, Boston, Mass., July 31, 1980, pp. 36-42.

In the MPOIS experience, the critical use of the crosswalk is in the OES-SOC job needs allocation, on the labor demand side. On the supply side, there appears to be no really critical crosswalking issue. Interviews conducted with Department of Public Instruction (DPI) representatives indicated that they could generate OE-type data from their own internal coding structures. Because OE codes are very broad, they would like to get involved in the specific determination of OES to OE relationships, based on their knowledge of specific course offerings under the training program.

During the latest TAC meeting of February 22, 1982, one of the crosswalk issues related to occupational supply categories was resolved. North Carolina DPI and DCC representatives agreed to replace current state codes with the new Classification for Instructional Programs (CIP) codes developed by the National Center for Education Statistics. NC SOICC staff will work with designated DPI and DCC personnel to further align the matches. Since the new CIP taxonomy is designed to combine and replace both United States Offices of Education codes (USOE) and Higher Education General Information Survey (HEGIS) codes, interface with the HEGIS data file, received annually by NC SOICC, will be facilitated.

2. Format (Inquiry System and Output)

The current MPOIS Inquiry Form and Sample Report Output can be found in Appendix C. Based on the user's specification of the geographic region of interest, and one coding structure, the following summary tables can be produced:

Labor Supply and Demand Summary (400-1)
Labor Supply Summary by Sex and Race (400-2)
Enrollment Summary (400-3)
Enrollment Summary (400-4)

In addition, the following Detailed Reports on Supply data can be produced for any one specific supply source:

Labor Supply Detail by Source (401-1)
Labor Supply Detail by Source, Sex and Race (401-2)
Enrollment Detail by Source (401-3)
Enrollment Detail by Source, Sex and Race (401-4)

Other MPOIS reports include:

Report Title	Contents
Labor Force Estimates (405-1)	Labor force, Employment and Unemployment Statistics for Selected Geographical Areas
ESC Placements (405-2)	Provides ESC Employment Service Automated Reports (ESARS) placements for up to 6 DOT codes selected.
Occupational Crosswalk (415-1 through 415-10)	Using any one of 10 coding structures as a base, user will be provided crosswalks to any one or all of the other 9 coding structures for any one or all occupations or training programs.

Report Title	Contents
Industry Staffing Patterns (410-1)	Provides a "typical" staffing pattern (percentage distribution by occupation) for any five selected 3-digit Standard Industrial Classification (SIC) codes.
Occupations Specific Report (180-1)	For up to 6 SOC occupations CHOICES-based occupational descriptions are provided.
School Specific Report (330-1)	For up to 6 schools, CHOICES-based information is provided.
Schools Offering Programs Report (430-1 and 445-1)	For up to 6 training programs, a list of schools offering such programs is provided.

Based on the evaluators' own experience in completing the request form and receiving the MPOIS outputs, the following observations can be made:

(a) The inquiry/output system can be improved upon.

The inquiry system (APPENDIX C) has adequately served the originally conceived needs. However, certain improvements on the inquiry system now need to be implemented, based upon actual experience. One of the comments from a survey of users was that the system was fine "but it was hard to initiate." Aside from the Handbook, the system user would need at least three other reference materials at hand, the DOT Dictionary, the SOC Dictionary, and one of the following: State HS, DOC, or HEGIS. While the NC SOICC staff have been very willing to help, it appears that nearly all of the users to-date require some help in completing the request form.

The training time involved in teaching the users about the inquiry system would take away from the training they need in the use of the information received. A restructuring of the inquiry forms is needed and should be done with feedback from experienced users.

Outputs could also be restructured for efficiency. There are certain options possible:

(1) To combine some of the reports. For example, the eight reports in the 400 to 401 series could be easily combined into one report. The same is true for all the CHOICES-based reports.

(2) Consider elimination of Part 4 (Occupational Crosswalk) as part of the system. This could be provided on preprinted medium, or microfiche, if needed. (It has been personally noted by the evaluators that this option produced some 40 pounds of computer paper.)

(3) Experiment with restructuring output formats, given dummy data and tables, to see which could be viable.

The primary orientation of the current inquiry system appears to be to users-at-large who would more normally be using the system to address specific, but not large or comprehensive, data needs. Principal agency planners may not be persuaded to use the OIS, given its current inquiry system, because the inquiry system limits inquiry to only six occupations at one time. Looking at a cost of $20 per inquiry, plus the time expended in completing the request forms and the time required to recompile the separate, but ponderous, output forms, users may not want to face the challenge. This is especially true since the OIS product, to many of these planners, has not "proven itself yet" and there is a wrong perception that the OIS contains only the same data that they already have or that which are provided by ESC at no charge.

Clearly, the MPOIS might easily lose the principal agency planner as a user because of the limiting inquiry system. On the other hand, it may lose the ad-hoc user having a one-time information need because the inquiry system is too complex. The current MPOIS, as it stands with its inquiry system, appropriately serves the needs of those fairly technically-oriented planners who have regular, but not substantial, data needs--in other words, a minority of the user universe.

Indeed, the very type of OIS--a batch-mode system--which MPOIS represents, is generally more oriented to users with substantial data needs. The casual user is generally more supported by user-oriented interactive systems which could also use prompts and other instructions during the course of the session. Nevertheless, the batch-mode system can be made suitable for the one-time user, given certain modifications which would lead to easy-to-understand formats and a simple inquiry form.

(b) MPOIS has flexible report-generation capability

The inquiry/output system has provided a limitation to the OIS but the system itself appears to be very flexible. This observation was well demonstrated in December 1981, when by invoking special programming which worked on the current OIS files, the system produced specifically-designed reports for CETA Prime Sponsors. The project was completed in less than three weeks. During the next cycle, the turn around time promises to be a lot less.

The batch-mode system approach itself does not appear to be a critical problem, since it has been demonstrated that the system has addressed information needs promptly. It would also appear, that as specific report-generating programs are generated and saved, the batch-mode process itself (combined with the report-generating capabilities) will enable NC SOICC to produce large reports faster than a purely interactive OIS system. Also, there are no severely limiting factors in North Carolina's computer system support which could be identified; critical factors for MPOIS success, besides funding, are data-base acquisition, maintenance, and service to users. Continued experience with the system and having user-orientation experience will solve both these problems.

(c) The user charge and billing system should be reexamined.

A $20 user charge has been decided upon by the SOICC Committee in order to cover some of the OIS operating costs. Although the charge for any one inquiry has never been cited by any one user as a major stumbling block to the use of the MPOIS, it has been indicated that the product has to be recognized and "prove itself first." In some instances, the submission of the $20 invoice through the fiscal system incurs more cost than the payment of the bill itself. One of the options to consider is an interagency voucher system where a certain number of such requests are prepaid and vouchers would accompany each request.

The $20 charge appears to be a good starting point but a good marketing strategy needs to be decided upon and implemented if the intention is to make MPOIS self-funded. An alternative approach for generating more revenue for MPOIS maintenance and enhancement might be to use the MPOIS within a larger state system which can provide for its funding through grants and contract work on public and private research projects. In any event, continued public contacts in terms of expanding user awareness of the MPOIS is warranted.

3. MPOIS Operations

After the inquiry/response form is completed, the MPOIS programs are initiated via a computer terminal located in the NC SOICC offices. The computer screen emulates the basic format of the inquiry forms and the NC SOICC operator can key in codes corresponding to those on the report request form. A set of program and control (JCL) cards are then delivered by SOICC to the Department of Administration's computer operations offices where the actual processing takes place. The computer printouts are generally available on the next day. NC SOICC staff pick up the reports, check them out, package and mail them. The computer outputs are accompanied by a preprinted copy of footnotes (and caveats) on the MPOIS data. Invoices, representing a $20 charge per request, are mailed to each state agency monthly while advance payments are required from users not employed by the state government.

The operation of the system by OIS support personnel has become routine, both in terms of database maintenance and inquiry processing work. Major operational and technical "bugs" have been worked out, although minor problems continue to surface.

(Evaluators' Note: One of the runs requested by the evaluators was interrupted due to a programming "bug" arising from the occupational codes entered. After adjustment, the process was restarted and completed. In spite of the problem, the normal overnight turnaround time was met.)

Internal system documentation of the OIS has been judged to be adequate. The computer programmer assigned to the project had complete documentation on hand and demonstrated detailed and precise knowledge of the system. Furthermore, the extent to which the programmer was able to promptly produce a set of new CETA reports from the MPOIS data base was ample evidence of her technical skill and intimate knowledge of the system, as well as the flexibility evidenced in the design.

4. Conformity to OIS Development Guidelines

The MPOIS in North Carolina has adhered to the basic OIS development guidelines prescribed by NOICC and has validated the OIS "Handbook". With respect to specific points of NOICC policy guidelines (some of which are published in the Federal Register, July 19, 1978), the following characteristics of MPOIS are evident:

(a) The adoption of the labor market area concept as the basic geographical subdivision for the development and use of occupational data. MPOIS geographical coverage options include data by county, planning region or statewide, as appropriate for supply and demand analysis.

(b) The adoption of the Occupational Employment Statistics (OES) as the standard principal source of current and projected occupational data. NC SOICC has used the OES program data solely in providing job needs by occupation. Unfortunately, only the statewide and major area OES matrix program data has been provided by the LMI Division, rather than the more detailed OES survey data. Projections used in the MPOIS are fully based upon the OES matrix projections (converted to SOC).

(c) The adoption of the Standard Occupational Classification (SOC) System. North Carolina uses SOC-based labor demand data and has developed crosswalks between OES and SOC and OES-SOC to OE. The incorporation of North Carolina's CIDS program (CHOICES) within MPOIS indicates that the full conversion of all relevant coding structures to a SOC-based scheme has been the goal.

(d) The implementation of an OIS system which incorporates the fullest possible range of needs, including the career information system. As reported in the NC SACE Report,[10] Mr. Walt Webb of NOICC indicated that although SOICCs are not specifically required to develop or implement CIDS systems:

> "1) an effective occupational information system should address the widest possible range of needs, 2) a career information delivery system is a logical extension of an occupational information system, and 3) therefore, a career information system should be considered as part of an effective occupational information system."

(e) An OIS system will obtain data, to the extent possible, from centralized sources. The NC SOICC has obtained data from all potential sources cited in the Federal Register, namely:

Vocational Education Data System (VEDS)
Higher Education General Information Survey (HEGIS)
State and National Apprenticeship System (SNAPS)
Comprehensive Employment and Training Act (CETA)
US Employment Services (USES)

[10] NC SACE Report, p. 3.

The latter two data sources are embodied within three data files used in MPOIS:

Employment Service Automated Reporting System (ESARS)
Occupational Employment Survey (OES)
Local Area Unemployment Survey (LAUS)

(f) An OIS system will not duplicate the work of any other agency. The major potential for duplication in NC SOICC work exists vis-a-vis the Labor Market Information (Research and Statistics) Branch of ESC. During the evaluators' interview with the four representatives of ESC, they were asked for a candid opinion on the duplication of work issue. The response was unexpected--no duplication existed. As far as LMI staff was concerned, the NC SOICC was another vehicle by which LMI information "should continue to be disseminated." They did not see NC SOICC as managing data collection programs and collecting new data which could be better done by another agency.

Comments from the other agency users also supported the conclusion that SOICC did not duplicate the work of any other agency. There was, however, misperception that SOICC was "only repackaging" data which was already available and free to everyone. The benefits of a comprehensive or multi-purpose information system were not fully understood by everyone.

D. Service to Users

1. Production of Tailored Information, Dissemination and Training (Steps 9 thru 11)

The final phase in the OIS development process falls under the category of Service to Users. As visualized on the flowchart on page 9, this phase takes into consideration the production of tailored information, dissemination of outputs and user training. Each of these aspects will be discussed in the sub-sections below.

Production of Tailored Information (Step 9)

The North Carolina MPOIS outputs are defined within the limitations of the inquiry forms, as has been described earlier. In the normal situation, the user would select from a number of options those particular pieces of information and cross-tabulations which are permissable under the imposed request form. The limitations are well-described in the MPOIS Handbook and the reporting options and contents of individual reports have been noted on pages 32-33.

In a batch-mode operating system like North Carolina's, there has been an implicit assumption that a major part of the users' needs can be serviced in such a manner. Only experience, however, will provide the evidence one way or the other. Moreover, potential "fine-tuning" of the inquiry system and enhancements to the data base may well stimulate increase in system usage.

The use of the batch-mode system causes a standardization of many of the outputs and produces a potential cost-savings over the alternative "on-line" or interactive system. On the other hand, because the reports are standardized, there is a serious need to configure the reporting outputs in such a way as to satisfy the majority of users. The onus for determining what might be useful formats falls upon the OIS designer when a batch-mode system is used; for the alternative

interactive system, the user selects those options and is, to a large degree, responsible for the outputs selected. Aside from ensuring that the data base is accurate and up-to-date, the developer of an interactive OIS system may well avoid being on the "firing line".

A system which produces standard formats appears to provide a greater opportunity over the alternative system to produce outputs which contain some narrative analysis. The Missouri OIS system, for instance, has some narrative phrases imbedded in the programming which produces canned "comments" on some of the output variables and also introduces some of the complementary information. Some of these elements may be suited to the MPOIS. Alternatively, in the absense of "canned" analysis, it would be just as well, if not better, to develop some full reports which contain the analysis on those data obtained from the standard reports.

2. Dissemination to Users (Step 10)

North Carolina has a well-developed network for disseminating MPOIS outputs. Much of this network exists because of the number of years NC SOICC has been operational and because the CHOICES system is well-entrenched. The merging of the CHOICES system within the MPOIS, gives each of these systems an expanded list of potential users.

The North Carolina SOICC has made good use of audio-visual presentations, pamphlets, brochures, and publications to engender a wider and better knowledge of the MPOIS. A total of 750 potential MPOIS users were identified by the SOICC Committee members and staff; most of these were included in a bi-monthly Newsletter mailing list. In addition, in order to comply with the law, NC SOICC publishes an advance announcement and agenda of all SOICC executive meetings.

3. Training for Users (Step 11)

During the summer of 1981, the NC SOICC conducted one-day orientation sessions on the MPOIS. A total of nineteen sessions were held in ten locations across the state. The attendees numbered 233 and these represented all of the public and private organizations who were potential users of occupational information.

At the sessions, the attendees were shown how to obtain data from the MPOIS and were told some of the ways in which the data can be used. The MPOIS Handbook had been distributed to all those who had pre-registered for the orientation sessions to facilitate review. Evaluation forms were distributed to the attendees. The comments from the evaluation sheets were compiled and analyzed for submission to the SOICC and TAC Committees.

Based upon the comments received from the evaluation of the orientation session, there was a common perception that the MPOIS was filling a real need. The comments were generally very positive regarding the MPOIS concept. However, the orientation session did not incorporate any "hands-on" demonstration of the MPOIS so that the users could not really experience what they would be getting into. It is clear that, given the one-day session and the batch-mode system which required an overnight process, only a general orientation, rather than specific user training, could be attained.

A second training session was held for CETA planners in January, 1982 to assist them in the interpretation of outputs produced specifically for them during the previous month. Other sessions are being planned for vocational education planners and other users of the information.

It is clear that although training sessions have been well attended and that the presenters have prepared extensively for the sessions, the training has not yet been effective in explaining how the MPOIS can assist those in attendance with their "every-day" planning needs. The MPOIS will be in the mainstream of the planning effort only if potential users are convinced of both the value of a centralized source of planning information and the real need for better decision-making.

Many user comments verify that the inquiry process, from the user standpoint, is cumbersome. The development of a set of sample formats using various cross-tabulation options and including potential uses for the information would make for more effective training and increase the acceptance and use of the system. A major problem with the current inquiry form, as mentioned earlier, is the fact that a person filling out a request form must refer to a number of different manuals, not all of which are readily available to many users.

A final note on training has to do with the extent to which bringing to the attention of users caveats on data can impede use of that data. While responsible presentation of the system capabilities requires that certain caveats on the data be mentioned, there comes a time when, if overdone, the audience starts to wonder why one bothered to develop a system based upon such poor data. The real situation is that one must convince users only that they have attempted to gather the most accurate data available within their budget. Most responsible planners realize the problems in data. One of the objectives of the trainer in OIS use should be to provide some comfort, as well as caution, in the use of the system. Otherwise, the planner will be made to feel justified in not using data at all to arrive at planning decisions.

Dissemination of the outputs of MPOIS are subject to a marketing orientation which assumes that users need the data in the system. Those doing marketing must know the planning process of those to whom they are "selling" the MPOIS service. Production of tailored products is a capability of the MPOIS and this is a major means for effective dissemination.

4. User Experience and Evaluation (Steps 12 & 13a)

The North Carolina MPOIS has not yet attained a large volume of users. At the same time, the system, as described earlier, cannot be considered truly immutable so that certain small changes to the system or to the marketing of the system can be presumed to take place. The evaluation of the user experience, described below, represents, in many cases, not an evaluation of real experiences but a perception of the user regarding the MPOIS.

The evaluators chose to include among the "users" some persons who had not yet used the system but who were, nevertheless, knowledgeable about its current status, its design, and its problems, and who were likely to be users in the future. Personal interviews were conducted by the evaluators with twenty-four users and potential users of the system representing agencies in the North Carolina State Government and one private sector organization, all of whom had

reason to be interested in and to be users of MPOIS. (Interviews with the SOICC Committee are separately discussed in Section III-B) No SOICC staff member was present in any of the user interviews.

Seventeen (17) persons were contacted through personal interviews in Raleigh during the week of January 25-29, 1982. Each interview lasted from 45-90 minutes duration depending upon the number of persons being interviewed. Seven (7) persons were contacted in areas outside of Raleigh. These interviews ranged in time from 15 to 25 minutes. Phone interviews were chosen for those "out-state" for budgetary reasons, coupled with the assumption that most of the information obtained would only confirm what had already been learned from the Raleigh interviews. The names of persons interviewed are provided at Appendix B. The state agencies represented in the interviews were:

1. Department of Community Colleges
2. Department of Public Instruction
3. State Advisory Council on Education
4. Division of Vocational Rehabilitation
5. State Employment and Training Council
6. Division of Labor Market Information
7. Councils of Government (CETA Program Planning and Local Community College Planning)

The private sector user represented the Greater Raleigh Chamber of Commerce. Persons contacted by phone interviews were all "out-state" planners who were likely to be users of the MPOIS. Six (6) of these persons were planners in regional councils of government, being funded by the Comprehensive Employment and Training Act (CETA). A seventh person interviewed by phone was a planner with a community college.

Selection of users for the evaluation was purposely not performed on a random basis. Rather, persons were chosen for the evaluators by the NC SOICC staff based upon their knowledge of who had been trained on the use of the system and who had expressed interest, both positively and negatively to the development effort. Most had considerable knowledge of the MPOIS developmental process and were qualified to comment on the current status of the system as it related to their sphere of responsibility.

It should be noted that no "halo effect" was encountered by the evaluators from those interviewed. That is, all those interviewed expressed themselves freely and were not hesitant to be critically constructive.

In contrast to selection of Raleigh interviewees, those selected for phone interviews who were out of the Raleigh-Durham area were randomly selected by the evaluators based upon those contacted who had attended training sessions and felt competent to discuss their views on the system. In those cases in which persons refused an interview, there was no reason to believe that they refused for any reason other than lack of knowledge.

The interviews were conducted in a semi-structured interview setting; i.e., the Framework for Evaluation was used as a point of departure for discussion by those interviewed. Although not all criteria were covered equally by all interviewees,

the richness of the interviews allowed the evaluators to fill in the blanks in most cases regarding interviewee's general attitudes on content, design, operations, training and outcomes of the MPOIS.

The following provide summary statements of the issues raised in the interviews organized around the agencies the interviewees represent.

1. Department of Community Colleges

Each of the three representatives had a good awareness of the system and looked forward to seeing the system develop further. One of the persons, especially knowledgable about data systems, commented that "the MPOIS needed more time to develop and that his experience indicated that the learning curve for users of such a system is rather a steep one."

One person had already requested information from the system. Another planned to use the system in the near future. The third person had no plans to use the system but did plan to provide VEDS enrollment and student follow-up data for use in the near future.

Each person interviewed had attended a training session on the MPOIS. Each agreed that more flexibility was needed in requesting products. In addition, they were concerned that, given the current procedures and request form, the user could not be sure what the format of the report would look like when provided. For example, the person who had used the system gave an account of a request which did not give her what she thought she would receive from the system. She thought she would receive a list of occupational titles in Dictionary of Occupational Titles (DOT) detail allocated to vocational programs classified by North Carolina Community College Codes (DCC). When she did not receive what she wanted from that report, instead of filling out another request form, she chose to go to the MIS section in the community college department to obtain the data. (Incidently, the system could not have provided the information requested, anyway, because the capability to provide DOT by DCC crosswalk is not available in the system.)

The evaluators suggested the possibility of providing a number of prototype formats which a person could choose. In this way the potential user could know what the format would be of the report they requested. The interviewees agreed that this approach would help to make the request process more transparent.

The subject of a fee being charged for obtaining data was discussed. The representatives agreed that, although they thought their agency could afford the fee, it was important to make users aware of the need for a line-item in their budget or another means for charging the agency for the service. They also thought, given the need to obtain data for the planning cycle in the January to March period of each year, that a one-time report should be provided which would be structured to provide most of the data needed, once each year. This report would be jointly planned by the agency planners and the SOICC so as to provide the data available out of the system tailored to the planning cycle.

In addition, the process for allocating occupations to programs was considered to be questionable. The evaluators discussed the possibility of the use of follow-up data, by four-digit SOC code, to improve the allocation process. All agreed that this data would be helpful and that the data would soon be available.

Although planning within the department is done on a statewide basis, one representative indicated that data localized to county level would be helpful because of the need to coordinate planning needs of CETA programs which have county jurisdictional lines. He did understand the constraints on the data which preclude county occupational data from being output from the MPOIS.

Major benefits of the system were seen as its capability to show supply data compared to demand data for various classification systems. Another benefit was seen as the capability to structure reports on the aptitude and skill levels associated with various occupations for which training was being planned. (Evaluators' Note: The current request form does allow the user to request this data summarized by SOC clusters. However, if users wish the aptitude and skill data by DOT, this data is also available from the file but not accessible using the current request form. However, given the flexibility of the computer, etc., this data could be provided in a special report.)

A final issue emerged which related to coordination of data collection for use in the OIS. One of those interviewed indicated that a problem had arisen whereby the data processing staff performing work on the OIS had taken a data tape which did not contain complete data and had loaded it into the OIS. It was suggested that although this one instance had been discovered and complete data provided for OIS use, continued vigilance and communication was necessary between the data producing agencies and the OIS staff to insure that the agencies will stand behind the accuracy and currency of their data.

2. Department of Public Instruction

Two representatives of this department were enthusiastic about the system's potential but were not as aware of the system's capabilities as they wished to be. One of the representatives had attended the training sessions on the system but the other one had not. However, the one who had attended the training was involved in working on occupational projections to the year 2000 and had a real need for the OIS data. He indicated that the Employment Security Commission (ESC) had been asked to provide a report, as in previous years, on the demand for occupations for use by Public Instruction in their planning. This year the LMI Division indicated they did not have the resources to do such a report. In past years, the report was worked up on an "ad hoc" basis and did not include occupational supply as part of the report.

Those interviewed wished to have more input into the "fine tuning" of the occupational crosswalk, particularly with regard to the relation of State Course Codes, as they relate to USOE codes. Further, discussion indicated that a perfect opportunity for input to the OIS by Public Instruction would be at the time that the new Classification of Instructional Programs (CIP) is added to the OIS to replace the USOE codes.

As an example of the need for closer coordination between planners and the OIS staff, the interviewers provided a copy of Table 12(d), North Carolina Vocational Education Projected Plan for Meeting Job Skill Training Needs which is part of the State Plan for Vocational Education, FY 1982. This table provides a format that could be duplicated by the OIS and, further, could include occupational titles aligned with the program codes. Coordination

with the planners, through the TAC, could insure that the OIS data is available almost on a "turn-key" basis to satisfy the data needs for each year's State Plan.

There was also some misunderstanding on the part of one of those interviewed regarding the availability of data by the CIP classification. He understood that the CIP was already available in the OIS and that a promised OIS report to be delivered in the next two weeks would be by CIP codes. A clarification of this interpretation was provided by the evaluators and the timeline for adding CIP to the OIS was discussed.

On the subject of billing for the OIS, one of those interviewed indicated that when he heard that there was a charge for a report from the system, he didn't bother to make a request because he was told that the same data was available "free-of-charge" from ESC. This misconception of what the system actually had to offer was discussed at length. The conclusion drawn from both representatives was that the charge for each report (containing only information on six (6) occupations or programs) would be a detriment to the system's use both from the point of view of the "hassle" involved in payment of a potentially small amount of money and from the point of view that some of the data included in the system is free and available in publication form from ESC, Community Colleges and other agencies.

This discussion highlighted a definite marketing problem with the MPOIS whereby key potential users of the system were enthusiastic about its potential to help them but were unaware of its exact capabilities relative to other data sources and, based upon that lack of awareness, were unwilling to pay for the system outputs.

A final perception obtained from the interview was that the OIS had taken a "back seat" in its development to that of the CIDS. One comment was that there was "too much focus on CIDS" and another was that OIS was "almost a peripheral thing because of all the interest by the SOICC in developing the CIDS." These perceptions were considered to reflect some frustration, on the one hand, but some satisfaction that, indeed, the OIS had been implemented and was available to provide data. Further, the fact that their input was being requested in the "fine-tuning" of the system was seen as a positive response.

However, the perception that CIDS had taken precedence in development over the OIS is cause for considering the education of users to the fact that the CIDS is a part of the MPOIS and that there isn't an "either/or" situation with regard to development of either an OIS or a CIDS. The fact that data from MPOIS is available to planners, as well as the CIDS, should be emphasized.

3. State Advisory Committee on Education (SACE)

The two-person staff of the SACE was interviewed to determine their evaluation of the development of the system to date, and to obtain views of whether the OIS was likely to meet the needs of the Departments of Community Colleges and Public Instruction. This staff had prepared a brief evaluation of the MPOIS development approach, as part of their 1981 study on the NCSOICC: A Study of Its Progress. This study represents the only previous formal effort to

evaluate the MPOIS. Therefore, this report had been referred to, in several parts of Chapter III of this study, where agreement or disagreement with their assessment seemed appropriate.

Both persons touched on a theme previously raised by Public Instruction. This theme was the opinion that the OIS should have been completed (or near completion) prior to commencing development of a CIDS. They felt that simultaneous development of both the OIS and CIDS had delayed the availability of the OIS data for use in planning by the Department of Community Colleges and Public Instruction. Consequently, they asserted that many, including the private sector employers, were impatient to receive improved occupational supply and demand data from this system. As proof of their assertion, they referred to a recently completed study conducted for the North Carolina Department of Commerce and the Education Committee of the Governor's Council on Management Development. This report, Predicting Occupational Employment Patterns in North Carolina, dealt with "how to obtain more adequate information about occupational employment patterns in North Carolina within the next few years." The SOICC, and the MPOIS, were assessed as a current data source by that study.

The interviewees reported that they were equally concerned that the DCC and DPI had not requested the SOICC to provide their data for use in planning and that they had not adequately specified what they wanted from the system.

In this regard, they indicated that they thought the members from vocational education MPOIS Technical Assistance Committee (TAC) were not really attuned to data needs for planning or how that data should be presented. They recommended that more actual users of the data be named to the TAC to insure that the reports were oriented toward real needs. For example, they referred to a criticism of the fact that only data on six occupations or programs can be requested from the system with each request form. They indicated that design of the output in this way showed one example of the lack of appreciation for how the system actually would be used by "users."

The SACE staff further stated that the system was too complex to be used without "consulting assistance," as it was presently designed. They agreed that supporting materials showing potential formats of reports available and examples of how the various output reports could be used would be essential if the system were to be used extensively for vocational education planning.

Finally, the staff was in agreement that the capability to request special reports, using a batch-mode approach, rather than an "on-line" approach, was satisfactory and was definitely a more cost-effective way to design the system.

4. Division of Vocational Rehabilitation

The designated SOICC alternate and TAC member from the Division of Vocational Rehabilitation, who had also attended the original training sessions on the system, and a relatively new staff member who would be a potential user of the data from the system in planning his program were interviewed.

Those interviewed verified that their division was in need of both the MPOIS

and the data from the CHOICES system. The difference between the CHOICES and MPOIS was discussed for the benefit of the new staff member.

Discussion centered around the efforts which had been taken thus far to market the MPOIS. Both agreed that the current method of requesting data (i.e., the current inquiry form) left something to be desired. They indicated that funding resources were scarce and that, consequently, those planning tools which can demonstrate their usefulness would be used while the others will fall into disuse. They asked the evaluators to tell them what the feedback had been "up to this time" from users.

The evaluators were candid in indicating that most persons interviewed had been critical of the inquiry form because of its lack of transparency--most had complained that it was impossible to know what the report would look like from filling out the form. The TAC member suggested that, given that problem, one solution might be to get each of the potential user agencies and the SOICC to create "mock situations" whereby data from the MPOIS would be helpful in solving a particular planning problem. This "mock situation" would not only help to make training more "real life" in its orientation but also might be used as part of the inquiry process; i.e., each "mock situation," consisting of a short one or two paragraph description could be followed by a sample report format which would address the problem in the mock situation. Rehab representatives and evaluators agreed that the development of "mock situations" was a very good idea and represented the types of marketing initiatives necessary for the MPOIS to be valued by more users.

5. State Employment and Training Council (SETC) and Balance of State Prime Sponsor

Personal interviews were conducted with representatives of the SETC and the Balance of State CETA prime sponsor, two of whom had attended training sessions on the system. They had also attended a more recent session in which the SOICC had discussed the possibility of providing a special MPOIS run to meet needs of the FY 82 planning cycle.

Early discussions in the personal interviews focused upon the role of the TAC in development of the MPOIS. One of those interviewed was currently on the TAC but he indicated that the TAC had not met for a very long period. (Evaluators' Note: The exact date of the last meeting was September 11, 1981, when he was not present. However, he was present at the TAC meeting on June 2, 1981. This appears to be the only TAC meeting which he attended.) He indicated that a great deal of design discussions dealt with "cleanliness of the data" (i.e., communications between computer programmers on the data specifications and retrieval methods). His view was that "more time needed to have been spent in discussions between program persons (i.e., users) and the SOICC designer."

One person present expressed the concern that the training session which she attended spent too much time with the caveats on the data. This was carried to such a point that she "regretted having taken the time to ask for the data out of the system." All interviewed agreed that to market the MPOIS effectively would require that those performing training were (1) aware of the

uses and could illustrate the uses for the data for CETA planners, (2) were aware of what the system provided which was not available in the same content and format in other data sources and (3) be able to point out the limitations of MPOIS without making the system seem "less than useful."

All agreed that the system required an easier access capability so that users could know what data they were receiving and how it would be formatted.

An issue was raised about the reporting of data in the system which was also available from the Labor Market Information Branch of ESC in publication form. Upon clarification of the concern, the information referred to by the interviewee was not information on occupational demand from the OES program or industry staffing patterns, both of which are also available from ESC. Rather, information of concern was ESC applicants and placements and labor force estimates. There was also no concern with data being reported from the community colleges and public instruction, CETA, WIN, and the apprenticeship council, all of which is available elsewhere. Apparently, the concern centers around the duplication of data in the OIS and information being provided to the CETA planners by an ESC representative whose job it is to assist CETA planners with their needs for planning data. Such concern over availability of the data in two places soon led to a discussion of "why we need an OIS, anyway?" The evaluators presented the need for an OIS, recognizing the fact that part (but only a part) of the inquiry was posed as a question from a "devil's advocate" point of view.

However, from the discussion it was clear that the training sessions for CETA planners had failed to convince those present of the unique capability made available by the MPOIS for their planning. Further, it was unclear to some of those present what could be provided by the MPOIS which was not made available by the ESC representative. The need to present the capabilities of the MPOIS so that they are understood and appreciated by CETA planners was very clearly articulated by those interviewed.

6. Labor Market Information (LMI) Division

The discussion with the LMI Division focused upon the role of personnel from this office in development and subsequent use, of the MPOIS. They indicated that they felt no competitive pressure from the MPOIS effort vis-a-vis their own responsibilities although they did express concern that more coordination had not taken place in data collection activities. They acknowledged, however, that they could have also done more to foster coordination through the SOICC.

The evaluators raised the issue which was previously touched on by the SETC regarding the inclusion in the MPOIS of ESC preliminary labor force estimates and ESC placements which are available free from ESC. The LMI Division representatives felt that MPOIS was an extra means to get their data out to the field. Therefore, they agreed with its inclusion in the system. They were very concerned that their staff, because of continuing deep budget cuts at the federal level, would find it increasingly difficult to maintain basic data programs, which the MPOIS uses. They indicated that "special requests" for new data or reformatting of available data were not possible without

funding; even with funding, finding qualified research personnel was difficult. They were in agreement that the general level of personnel available to them currently made research efforts infeasible.

The evaluators touched upon the continuing controversy over the lack of availability of the OES industry/occupational matrix. The Chief of the Division expressed a willingness to cooperate but indicated that his hands had been tied by the BLS regional office on the subject. Subsequent discussion centered around the fact that SOICCs were excluded from the data while non-state employees (i.e., private contractors) could be given the data under certain agreements. All agreed that adding SOICCs to the list of authorized agencies, under specified controlled circumstances, should have been resolved long ago at the federal level.

The evaluators then turned the discussion to what role the LMI division saw the MPOIS playing in the total state's LMI picture. One person expressed the view that the really unique aspects of the MPOIS involved collection and delivery of (institutional) supply data which ESC does not have and the crosswalking capability built into the system. He felt that the system could be a "good translation" device for users.

However, another person expressed the opinion that there might be "danger of misuse of the data" if a good user support package was not added to the system. One of the evaluators pursued this latter comment further stating that another office (i.e., SACE) had made a similar observation that without technical assistance the straight use of the data out of the system would not be effective. There was general agreement that this was a valid point and that some narrative interpretation and TA should be built into the system.

A further discussion ensued concerning the role of the North Carolina Department of Commerce in LMI activities and the recently released North Carolina State University (NCSU) report on Predicting Occupational Employment in North Carolina. The authors felt data which they had were much more reliable than other data being generated by other offices and that some controls on the various potentially conflicting data sources should be effected. They felt that their major assistance could be in providing estimates of labor availability to commerce for use in industrial development.

Although LMI Division had a representative on the oversight committee for the NCSU study, they basically felt that little was accomplished by the report and that it essentially suggested unworkable solutions or initiatives which were piecemeal. For example, the suggested use of a "local expert approach to interpret regional occupational employment projections" could probably not be uniformly applied or funded across the state. Consequently, ESC projections remain the only feasible approach.

A discussion of the role of the TAC in the development of the MPOIS brought several candid reactions which matched those suggested in other offices. They felt that the TAC had little input into the SOICC committee design of the MPOIS. One person asserted that very little discussion had taken place within the TAC on the design per se. He also felt that the TAC was the perfect body to assist the SOICC in improving supply sources and reporting of that data.

The final area of discussion was on marketing of the MPOIS and the impact of charging for the system. They were unanimous in agreeing that a better "user package" would be necessary if MPOIS were to live up to its potential. They agreed that a number of standard formats illustrated for the user would be preferrable to the current request form.

7. Councils of Government (CETA Planners) and Local Community College Planner

Five of the seven persons interviewed had attended a training session for CETA planners held two weeks prior to the interview. However, only three had attended the original training program in June, 1981. Six of the seven interviewed were CETA planners while only one community college planner was interviewed.

All interviewed felt that they needed occupational data on which to plan. They stated that they needed to develop lists of high demand occupations in which to offer training. A select list was thought to be needed for use in recommending who gets contracts to train for what specialities. Two of those interviewed were interested in the capability to plan by sub-state areas, particularly counties. They were disappointed that county detail was not present in MPOIS for occupations. One person was particularly well informed on the need for the system. She stated that she would have liked a list of demand occupations along with a list of those not in demand and a narrative stating "why." She felt that regional data were sufficient for use in planning because of the number going outside of the region to work. She wanted the capability to know the number of enrollees entered, number actually graduated, and number actually available for work.

When asked about their perception of the quality of the data, they were concerned that so much of the supply data was not in the system. They were generally suspect of the data accuracy, but all realized that some data gathered in an organized fashion was probably better than no data. They all stressed the importance of keeping the data up-to-date.

The interviewees reacted very favorably to a reaction time of one to two days to obtain output from the system. However, all who had been trained admitted that they probably would have trouble filling out the request form for data because of the many different options and the lack of capability to visualize what the requested report might look like. However, one person thought it was clear how one would get the data out.

Several planners were aware that the MPOIS was the only source of aggregated supply data and the only place where, through a crosswalk, data on supply and demand could be in any way compared.

Finally, most of those interviewed felt that the support they received from the ESC representative in providing ESC planning data was very important. They singled out several ESC persons who needed to know what the MPOIS had to offer so that those persons could obtain what they wanted.

The issue of paying for the data resulted in mixed reactions. Most felt that MPOIS runs would be provided to them by the BOS central office. Consequently, it was not important to them. However, one person interviewed stated that he would pay for the data if certain changes were made but not in the form that

he had received the data. He felt that the form unnecessarily limited him in asking for data he wanted.

It is clear from these "out-state" interviews with planners that they perceive the system to have high potential for assisting them but they are not yet committed to its use unless an extensive training and marketing effort is continued.

8. Greater Raleigh Chamber of Commerce

The interviewee had previously worked for ESC and was now pursuing Economic Development objectives through a privately-funded project with the Chamber of Commerce. He had just published a widely distributed local area business directory containing a description of the major activities and products of each subscribing establishment. A listing of the kinds of jobs available within each firm was also included.

He professed that labor demand data are more important than supply elements, at least for his type of work. He had used the MPOIS at least two times, and he would only use the industry staffing report portion of the MPOIS system (Report 410-1). He would use the percentage distributions in the report and validate, either by mail or personal visits, those percentages of employment by occupation. Such information is then used to gauge the labor availability for new industry prospects.

A need for one, centrally-compiled report containing all the data for industry prospects was voiced. He appeared to be very certain that such a publication could be easily marketed to many private firms in the state. To prove his point, he showed the interviewer the Chamber of Commerce library which contained several types of privately produced publications, containing economic and marketing data, for which the Chamber paid very high annual subscription rates.

At least two points are important to note from this interview. First is the need to produce "one-time" comprehensive reports to serve annual needs of planning agencies. Secondly, it was clear to the interviewer that the Chamber of Commerce felt that the further marketing of the MPOIS could be successful and that uses of the data could be illustrated as part of that marketing effort.

SECTION IV

RECOMMENDATION RECAP

In the foregoing, many suggestions for improvement have already been discussed to some extent. In this section, a set of recommendations are proposed based upon the evaluation. This is usually the section where suggestions are made which had been previously considered - and discarded - by the developers because of time, cost or other expediencies. This is also the section where one may see, in print, problems of design, laid bare for all (who read the report) to see. For what it's worth, it is always easier to find problems with someone else's work than it is to create something of one's own and to be the first in that venture; ditto for recommending solutions to the difficulties noted.

It is clear that some recommendations which will be made will not be implemented because of lack of sufficient funds. Nevertheless, these recommendations are not made for "show"; rather, these recommendations are posed for the purpose of presenting a complete evaluation, where the management is given the knowledge of different available options, some of which are immediately apparent and pragmatic, not all of which are immediately fundable.

Given all of the foregoing, we hope that this section will be a change from the ordinary and that all the critical issues have been given a fair hearing. The facts are that most systems have expended most of the available resources prior to the time an evaluation is conducted and that most designs have already been set for good. This situation does not hold for the MPOIS; there appears to be some room for "affordable" finetuning changes.

While it is tempting to recommend "grandiose" fixes and enhancements to the system, such recommendations are rarely implemented. It is hoped that these recommendations are posed along those issues which are most critical and those "lines of attack" which are the most promising.

For general classification purposes, these recommendations have been divided into two categories: System Recommendations and User Recommendations. Since all of these recommendations involve some systems work, they could all be classified as "systems" recommendations. However, it is obvious that some of these recommendations are not geared towards the efficiency of the OIS design and operation, nor to the expansion of the data base but towards facility and enhancement of use. Such recommendations which are oriented towards the user have been categorized in this section as "user recommendations".

Systems Recommendations

1. Apply results of Student Follow-Up Studies to Improve MPOIS Supply Estimates and Allocation Procedures

Student follow-up data can be used to improve the accuracy of two aspects of the system. First, follow-up data can be used to adjust the total number of enrollments in and completers from formal educational training programs to a number which better reflects the actual number of persons who are available for entry into given occupations. Depending upon the training program in question, persons completing the training and those actually entering an occupationally-related field can vary by as much as 40 to 50% or more. Therefore, use of enrollments or completions as estimates of supply is too rough to be of real use for planning vocational programs. Moreover, the training agencies engaged in the planning process, and using OIS supply figures, are not served well by overly inflated supply estimates. Further, for purposes of future planning, supply figures should be projected into the future based upon planned enrollment levels and "steady state" follow-up figures. This addition would provide data to support 5-year plans for vocational education and other agencies.

A second use for follow-up data is in improving the theoretical allocation of occupations to educational training programs. Since the types of occupations which are matched with educational training programs are based on "analyst judgement", in most cases, the use of follow-up data can be used to "fine-tune" the allocation process by using data on the actual occupations entered by program completers to adjust the occupational-educational program crosswalk.

An extensive program of student follow-up surveys had been completed in North Carolina, which includes a near universe of training program completers and leavers.

This data should be incorporated into the MPOIS initially, as soon as possible, and then annually or as new survey results are available.

2. Resolve Access to OES Industry/Occupation Matrix and OES Survey Data

NCSOICC has continued to have problems of access to OES Industry/Occupations Matrix data in the detail they need to support the output of the MPOIS. Because of restricted access to OES detail, NCSOICC has been forced to use statewide staffing patterns for sub-state areas, regardless of the differences which exist in size of firms from one area to the next and the high level of aggregation of available industry estimates. Although exploration into the use of OES "synthetic" estimating methodology is recommended for the future, the current problem of access to OES detail must be resolved before any further improvement in accuracy can be legitimately pursued.

The on-going stalemate over access to OES detail which has developed between NCSOICC, the LMI Branch of North Carolina ESC, and the Atlanta Regional BLS

Office is seen as extremely threatening, not only to MPOIS Development, but to the future of the OES and OIS Programs. If similar, or other, roadblocks are to be experienced by other states wishing access to OES detail, the question of limited OES usefulness in OIS design and development is sure to decrease support for both programs nationally. It remains to be seen whether the NCSOICC access problem is symptomatic of a larger problem which must be dealt with between the states and the BLS national office and NOICC, or whether the problem is isolated within a handful of states. Regardless of the future ramifications of the NCSOICC access to OES detail, as they might occur in other states, the current problem must be resolved favorably for NCSOICC or the credibility of the MPOIS data will be increasingly in question.

3. Proceed with Work, Already Underway to Convert USOE and HEGIS Program Classifications contained in the MPOIS to the Classification of Instructional Programs (CIP)

Conversion to the CIP should be completed prior to September, 1982 to allow reporting under the CIP structure for all programs receiving federal funding during FY 1983. It is recommended that consolidation of the program classification structures be pursued jointly by a subcommittee of the TAC representing DPI, DCC, the Higher Education Commission, and the NCSOICC.

NCSOICC involvement in the conversion process will allow for close scrutiny of the complete program taxonomy contained in the MPOIS by DPI and DCC planners. This opportunity for closer involvement with the MPOIS structure and procedures should be an asset in so far as these same planners will be major determiners of the extent of use received by the MPOIS by their agencies in the near future.

4. Discontinue the Occupational Crosswalk (MPOIS Report #'s 415-1 thru 415-10) as Standard Computer Output Report Options

For purposes of economy, it is recommended that each of the occupational and educational crosswalks, which are currently available as standard computer output options, be made available on standard letter-size published version or microfiche to those who state a need for them. Costs for producing the report could be charged directly to the user.

The sheer size of these outputs which can generate literally "up to six feet" of computer printouts for the complete set of crosswalks should be provided "off-line". Although computer core time is minimal, the cost of computer paper and mailing of the printout under the current operating procedure far exceed the cost for microfiche production or the photocopying of the crosswalks for multiple sets.

User Recommendations

1. Configure the MPOIS as a System which can Produce Regular Publications and Special Reports, in Addition to its Standard Outputs

The MPOIS has demonstrated that it can operate in its standard fashion - using the inquiry/request form to produce predefined formats and outputs. It has also shown that a certain amount of flexibility can be utilized, using special programming, which enables special tabulations to be produced from the data base. Such a situation was experienced during December, 1981 when special tabulations for CETA planning purposes had to be produced within a very short time frame. Special CETA-oriented planning information was compiled, to the satisfaction of CETA planners. Actual programming time spent on the project was minimal.

As long as the data bases are set up and updated adequately, ad-hoc programming routines can be efficiently designed to produce user-oriented formats. These program routines can also be stored for future use so that, in effect, subsequent requests of the same sort can be readily satisfied from an established program "menu".

An evaluation of the format and data content of special request runs should be conducted to find out if such requests fill certain standard agency needs and whether such requests can be better serviced through a publication which would use many of these special reports. Undoubtedly, a "full-blown" publication would need narrative analysis as a complement to the data which are presented. Given NCSOICC present staffing and funding, the production and printing of additional publications will necessitate joint efforts with other SOICC agencies.

2. Resolve Reference Period Problems to Appropriately Differentiate Between Latest Year Data and Annualized Estimates

The use of the MPOIS for planning purposes places an increased significance on projected estimates over a time-period which is, for Vocational Education planning purposes, a five-year horizon. This raises both a user issue and a MPOIS system issue because the MPOIS outputs, as they are currently set up, refer to only two time frame references: Current Year and Previous Year. At present, only current year data are possible, since it has not been possible to obtain old data files. Subsequently, however, two years of data will be kept on file and become retrievable.

The need for data on occupational supply and demand outlook necessitates a look at a longer time period, in order to identify the underlying trend. This is especially true when dealing with enrollment and completions data. Last year's figures on these items can be very misleading since they are subject to wide fluctuations. It would be better to look at a longer historical series on the data element and project a five-year trend or an annualized five-year change. The problem in occupational demand data is not as serious since, as part of the OES Projections data, the estimates are already based upon a longer projection period.

Although the MPOIS Handbook states that "In the near future, the system will contain data that have been projected two and five years into the future", there are no special routines imbedded in the programs which can produce those two and five year estimates. Additional enhancements to the MPOIS system will have to be made, or at the very least, the capability to print out five years' worth of data for each of the critical variables will have to be produced.

3. Reassess Enhancement Needs

This evaluation comes at a time when additional funds for MPOIS enhancements are a problem. Nevertheless, in order to better serve the users, certain affordable "fine-tuning" changes should be pursued. These changes are necessarily going to be considered "system" changes. But if special emphasis should be placed on facilitating and improving utility to the primary users, only those recommendations which directly affect system use should be considered at this juncture. Other system recommendations should be examined at a later date unless they have a direct and immediate payoff in system usage.

The Technical Advisory Committee and SOICC members should continually reassess the enhancement options, some of which have been referred to in this evaluation. Citing utility to the user as a primary criterion, the following recommendations appear to be of high priority: 1) Reformat outputs and redesign inquiry system, 2) Service agency users through ad-hoc programming using the MPOIS data file, 3) Develop the data files further by adding a longer historical series on some data elements and by incorporating follow-up data.

4. Revitalize the Technical Advisory Committee

NCSOICC should continue its good work in making full use of its state, as well as national, network in support of its role. The TAC has been very supportive of the NCSOICC efforts towards MPOIS. Continued support of the TAC should not only be ensured but more fully exploited, given the current situation. For instance, the TAC should be assigned to evaluate new formatting options, in addition to their role of advising solely on technical system issues. They should also be counted upon to help structure special reports, using the newly discovered MPOIS flexibility and even provide staff to help with the production of the analysis, especially if their own agency were to benefit from the product.

It would certainly help if the TAC were to be formally constituted and their role and assignments could be defined in advance. The evaluators perceive the North Carolina SOICC experience with their SOICC and TAC members as highly valuable and one factor which all the SOICCs should emulate.

5. Re-examine the User Charge and Billing System

The submission of a $20 invoice through the North Carolina fiscal system probably incurs more cost to process than the payment of the bill itself. Further,

the current design, allowing for the receipt of only six occupations or educational programs per inquiry, can produce an expensive report for those who wish data on a broad range of occupations or programs. However, this design can be modified, as explained above, and is one of the recommendations for change.

It appears that the $20 charge serves as an irritant to users and, conversely, is not likely to serve the purpose of initially penetrating the market in order to make the system eventually self-supporting. It is recommended that the fee structure and billing system be re-examined by the NCSOICC with a view towards a better identification of the relationship of these factors to system use.

One option which is recommended is to establish an "inter-agency voucher system" whereby a number of requests could be prepaid and vouchers would accompany each request. Alternatively, $20 invoices could be kept by NCSOICC and compiled until the total sum for invoice processing would be considered not to be insignificant. In any event, stimulation of usage should be set as a goal by NCSOICC and strategies to influence the entry as well as continued use by MPOIS users should be investigated.

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BIBLIOGRAPHY

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APPENDICES

APPENDIX A

MILESTONES IN NORTH CAROLINA'S OIS DEVELOPMENT HISTORY

APPENDIX A

Milestones in North Carolina's OIS Development History

1. Statewide assessment of user needs and data availability (November, 1978)

   Result: Produced comprehensive report on the LMI user needs in the state and data sources.

2. Technical Advisory Committee (TAC) Meetings (July, 1979 to September, 1979)

   Ten TAC meetings were held during this early period to evaluate user needs assessment Final Report and to determine "what to do and how best to get the information, with a view toward existing mechanisms and how they can be tapped." (meeting minutes July 2, 1979) SOICC statutory committee accepted the TAC recommendations.

   Results:
   (1) Decided to incorporate Career Information Delivery System (CIDS) within OIS.
   (2) Produced, in Dec, 1979, a "Preliminary Draft Model of a North Carolina Multi-Purpose Occupational Information System" which was very comprehensive. After review by SOICC signatory committee and other TAC members, OIS was later revised to include a less comprehensive system incorporating only those elements which can actually be included in the system at the current time. SOICC members met for two days in executive session to review draft model and act upon recommendations which produced the "First Version" of the North Carolina Multi-Purpose Occupational Information System." (Jan., 1980)
   (3) Recommended that NOICC proceed to develop or collect data for six information categories which were not possible to incorporate into MPOIS.

3. Development of a computerized North Carolina Occupational Data Allocation Crosswalk (March 1979 to May 1980)

   Result: An Occupational Data Allocation Crosswalk was designed and implemented to produce an interface between diverse occupational data

classification systems (coding structures), to serve as the basis for compilation, retrieval and analysis of data. The North Carolina crosswalk related three structures: SOC, OES matrix, and OE to each other, but published OIS data for each occupational demand component is based on SOC only. Allocation across coding structures was done using NOICC-provided crosswalk tape as preliminary basis for matching.

4. System Design Specifications (Jan. 1980 to August 1980)

Based on MPOIS objectives, the Management Systems Division of North Carolina Department of Administration produced a design incorporating these areas: Data File entry and maintenance; Processing requirements; Inquiry and response.

Result: Prepared a report, published August, 1980, by the Management Systems Division, North Carolina Department of Administration titled "Multi-Purpose Occupational Information System, System Design Specifications." Based on the final draft version of MPOIS (Jan. 1980), and data files which were expected to be received, a flow chart of the procedures and inter-agency working arrangements for the delivery and maintenance of the data files, as well as interaction with the SOICC OIS staff, was detailed using a batch-mode data-base maintenance and information delivery approach.

5. Final Draft presented to SOICC members and TAC (April 1980)

Result: The MPOIS staff presented the final draft version of the MPOIS and the status on the OIS system development project to SOICC members and TAC. The staff visited personally with each NCSOICC signatory member and received their comments on the system. The Committee was asked to provide feedback based on their agencies review of the OIS draft. Comments and feedback from TAC members (during 4/22/80 meeting) were brief. Minutes of the meeting state that OIS materials would be reviewed by TAC and comments would be provided "if need be."

6. Sample Computer Printouts of MPOIS (Feb. 1981)

During February, 1981, SOICC committee members reviewed preliminary computer printouts of the MPOIS.

Result: The format of several reports was modified based on input from SOICC committee.

7. Multi-Purpose Occupational Information System Handbook (Jan. 1981)

Result: Released the Handbook which contained an explanation of the MPOIS data sources, some suggestions for the use of the data and instruction on how to complete the Request Form. A four-page request form containing eight parts was implemented and the user was charged $20 per request as per decision by the SOICC committee. Request was generally processed overnight.

8. MPOIS User Orientation Sessions (May 1981 to August 1981)

Nineteen user orientation sessions were held during the summer of 1981. Attendees representing various areas and agencies in the state totaled 233. The MPOIS Handbook and user inquiry system was demonstrated.

Result: Based on a report on the attendees' evaluation of the orientation session, (memorandum dated August, 1981) there was an expressed need and support for the MPOIS outputs (as represented by a sample MPOIS computer output). It was also clear that attendees needed additional training on how the information could be used. There were a number of attendees who had problems with the request form (inquiry system).

9. Final Report: "Implementation of the North Carolina Multi-Purpose Occupational Information System" (Oct. 1981)

Result: Released the Final Report which traces the development of the MPOIS from its inception to its current state. The report noted that the system has been designed to take advantage of latest improvements in data collection and new coordination linkages which would capture data, otherwise unavailable. It also stated that major enhancements to the system, which had been anticipated, have been hindered by the lack of funds.

APPENDIX B

NAMES OF INTERVIEWEES

Mr. Preston Johnson
Director, Finance and Accounting
Employment Security Commission

Mr. Bob Philbeck
Deputy Director
Division of Vocational Rehabilitation Services

Mr. Julian Wingfield
Director, Management Information Systems
Department of Community Colleges

Ms. Nielle Hardy
Coordinator, Institutional Planning
Department of Community Colleges

Mr. Dee Boyer
Coordinator, CETA Program
Department of Community Colleges

Mr. A. L. Carson
Chief Consultant, Fiscal and Planning Unit
Department of Public Instruction

Mr. Don Brannon
Chief Consultant, Research Coordinating Unit
Department of Public Instruction

Dr. Mike Latta
Director
State Advisory Council on Education

Mr. Joseph Parry-Hill, Jr.
Assistant Director
State Advisory Council on Education

Mr. Bruce Hudson
Program Development Coordinator
Division of Employment and Training

Ms. Elizabeth Barnhill
Manpower Planner
Division of Employment and Training

Mr. Alan Alexander
Grants Manager
Division of Employment and Training

Mr. Robert Wheeler
Director, Manpower Resource Development
Greater Raleigh Chamber of Commerce

Mr. Don Brande
Director, Division of Labor Market Information
Employment Security Commission

Mr. David Garrison
Assistant Director, Division of LMI
Employment Security Commission

Mr Robert Cottrell
OES Projections
Division of LMI, Employment Security Commission

Mr. Robert Stephenson
OES Supervisor
Division of LMI, Employment Security Commission

Dr. Joseph Morrow
Chief, Evaluation and Program Review
Division of Vocational Rehabilitation

Mr. Bill Oliver
Specialist, Job Placement and Affirmative Action
Division of Vocational Rehabilitation

Mr. Leon Miller
Regional Planner
Centralina Council of Governments

Mr. David Turrentine
Regional Planner
Neuse River Council of Governments

Ms. Peggy Galloway
Regional Planner
Northwest Piedmont Council of Governments

Mr. Ninian Beall
Regional Planner
Kerr-Tarr Regional Council of Governments

Ms. Carol Whitaker
Regional Planner
Pee Dee Council of Governments

Ms. Terry Blaze
Regional Planner
Cape Fear Council of Governments

Mr. Robert Willis
Planner
Coastal Carolina Community College

APPENDIX C

MPOIS INQUIRY FORM AND

SAMPLE OUTPUTS

MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORTING REQUEST FORM

SEND TO: NC STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
112 West Lane Street, Suite 218
Raleigh, NC 27611 Telephone (919) 733-6700

REQUESTOR _____

TELEPHONE ( ) _____

ADDRESS _____

_____

BILLING ADDRESS _____

_____

FOR INTERNAL USE ONLY

REQUEST NUMBER

_____

PART I - SUPPLY AND DEMAND AND/OR ENROLLMENTS SUMMARY REPORTS (400)

A. What timeframe(s) do you need? Check the appropriate block(s).

[1.] Current Reporting Period [2.] Prior Reporting Period

B. Which labor supply and demand and/or enrollment summary report(s) do you need? Check the appropriate report block(s) below.

[1.] Labor Supply and Demand Summary (400-1)

[2.] Labor Supply Summary by Sex and Race (400-2)

[3.] Enrollment Summary (400-3)

[4.] Enrollment Summary by Sex and Race (400-4)

C. What geographic coverage would you like? Check only one coverage block, write in the code(s) and code the individual/accumulated block.

[1.] Statewide

[2.] Planning Region _____ Individual/Accumulated [ ]
(1. Individual, 2. Accumulated, or 3. Both)

D. What coding structure are you using? Check only one of the blocks below.

[1.] DOT [2.] State HS [3.] DCC [4.] HEGIS [5.] OES Matrix

E. Which occupation(s) or training program(s) would you like to see?

_____ _____ _____

_____ _____ _____

**********THIS FORM MAY BE REPRODUCED LOCALLY**********

PART 2 - SUPPLY AND/OR ENROLLMENTS DETAIL REPORTS (401)

A. What timeframe(s) do you need? Check the appropriate block(s).

[1.] Current Reporting Period [2.] Prior Reporting Period

B. Which labor supply and/or enrollment detail report(s) do you need? Check the report block(s) below.

[1.] Labor Supply Detail by Source (401-1)

[2.] Labor Supply Detail by Source, Sex and Race (401-2)

[3.] Enrollment Detail by Source (401-3)

[4.] Enrollment Detail by Source, Sex and Race (401-4)

C. Please check only one of the option blocks below, check the respective source block(s), and write in the coverage(s) and code(s).

OPTION [1] SOURCES: [1] Secondary Schools - Public

[2] Secondary Schools - Private

Counties

HS Codes

OPTION [2] SOURCE: [3] Community and Technical Colleges/Institutes

Regions

DCC Codes

OPTION [3] SOURCES: [4] Senior Colleges/Universities - Public

[5] Senior Colleges/Universities - Private

[6] Junior Colleges - Private

HEGIS Codes

OPTION [4] SOURCES [7] CETA

[8] WIN

[9] ESC Applicants (Supply Only)

[10] Apprenticeship and OJT (Enrollments Only)

Counties

DOT Codes

PART 3 - EMPLOYMENT SUMMARY (405-1)

A. What geographic coverage would you like? Check the coverage block, write in the code(s), and code the individual/accumulated block.

[1.] Statewide

[2.] Planning Region

[3.] County

Individual/ Accumulated

(1. Individual, 2. Accumulated, or 3. Both)

B. Which employment report(s) do you need? Check the appropriate block(s) and write in the code(s).

[1.] Preliminary Labor Force Estimates

[2.] ESC Placements for the Following DOT Occupations

DOT CODE DOT CODE DOT CODE

PART 4 - OCCUPATIONAL CROSSWALK (415-1 through 415-10)

A. What coding structure are you using? Check only one of the blocks below.

[1.] SOC [3.] OSP [5.] DCC Tech [7.] State HS [9.] OES Survey

[2.] DOT [4.] USOE [6.] DCC Voc [8.] HEGIS [10.] OES Matrix

B. Which occupation(s) or training program(s) do you need? Check the appropriate block. If block 2 is checked, write in the code(s).

[1.] All [2.] Selected, as follows

C. On which of the following coding structures would you like the crosswalk sorted? Check the appropriate block(s).

[1.] SOC [3.] OSP [5.] DCC Tech [7.] State HS [9.] OES Survey

[2.] DOT [4.] USOE [6.] DCC Voc [8.] HEGIS [10.] OES Matrix

PART 5 - INDUSTRY STAFFING PATTERNS (410-1)

For which industry(ies) do you wish to see a typical staffing pattern? (Both three-digit SIC code and number of employees must be completed.)

Industry Title	SIC Code	Total Number of Employees
_____	☐☐☐	☐☐☐☐☐☐
_____	☐☐☐	☐☐☐☐☐☐
_____	☐☐☐	☐☐☐☐☐☐
_____	☐☐☐	☐☐☐☐☐☐
_____	☐☐☐	☐☐☐☐☐☐

PART 6 - OCCUPATIONS (180-1)

For which SOC occupation(s) would you like specific information?

SOC Code	SOC Title	SOC Code	SOC Title
☐☐☐☐	_____	☐☐☐☐	_____
☐☐☐☐	_____	☐☐☐☐	_____
☐☐☐☐	_____	☐☐☐☐	_____

PART 7 - SCHOOLS (330-1)

For which school(s) would you like specific information?

Code	School Name	Code	School Name
☐☐☐☐☐	_____	☐☐☐☐☐	_____
☐☐☐☐☐	_____	☐☐☐☐☐	_____
☐☐☐☐☐	_____	☐☐☐☐☐	_____

PART 8 - PROGRAMS (430-1)

For which educational program(s) would you like specific information? (Enter HEGIS, DCC Technical or DCC Vocational codes only.)

Code	Program Title	Code	Program Title
☐☐☐☐☐	_____	☐☐☐☐☐	_____
☐☐☐☐☐	_____	☐☐☐☐☐	_____
☐☐☐☐☐	_____	☐☐☐☐☐	_____

☐ I would also like to see a list of schools offering these programs.

REQUEST 0722-01/1 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE PAGE 1
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM REPORT DATE 07/22/82

REPORT SD400-1
TIMEFRAME CURRENT
COVERAGE REGION B

LABOR SUPPLY AND DEMAND SUMMARY

TRAINING (*) 7393 AUTO MECHANICS III

EMPLOYMENT

1978 551 PROJECTED 1985 592

SOURCE	DATE	SUPPLY
SECONDARY SCHOOLS-PUBLIC (1)	1980	88
SECONDARY SCHOOLS-PRIVATE (1)		N/R
COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)	12 81	100
HIGHER EDUCATION-PUBLIC (4)	1980	0
HIGHER EDUCATION-PRIVATE (4)	1980	0
PRIVATE JUNIOR COLLEGES (4)	1980	0
PROPRIETARY SCHOOLS		N/R
CETA (5)	02 82	0
WIN		N/R
JOB CORPS		N/R
VOCATIONAL REHABILITATION (13)		N/R
TOTAL SUPPLY (6)		188

SOURCE	DEMAND
OES PROJECTED JOB NEEDS (7,8)	1
TOTAL DEMAND (6)	1

SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION
TIMEFRAME 05 82

ESC APPLICANTS (6,9)	2

N/R INDICATES THE AGENCY HAS NOT REPORTED THESE DATA TO THE MPOIS.
THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REQUEST 0722-01/1 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

REPORT SD400-2 LABOR SUPPLY SUMMARY BY SEX AND RACE
TIMEFRAME CURRENT
COVERAGE REGION B

TRAINING (10) 7393 AUTO MECHANICS III

SOURCE	DATE	TOTAL	SEX: MALES	SEX: FEMALES	RACE/ETHNIC: WHITE TOTAL	RACE/ETHNIC: NONWHITE TOTAL	RACE/ETHNIC: BLACK	RACE/ETHNIC: HISPAN	RACE/ETHNIC: INDIAN	RACE/ETHNIC: OTHER	VET.	DISABL	COMP. ENROLL RATIO
SECONDARY SCHOOLS-PUBLIC (1)	1980	88	2										
SECONDARY SCHOOLS-PRIVATE (1)		N/R											
COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)	12 81	100	94	6	96	4	4						
HIGHER EDUCATION-PUBLIC (4)	1980	0											
HIGHER EDUCATION-PRIVATE (4)	1980	0											
PRIVATE JUNIOR COLLEGES (4)	1980	0											
PROPRIETARY SCHOOLS		N/R											
CETA (5)	02 82	0											
WIN		N/R											
JOB CORPS		N/R											
VOCATIONAL REHABILITATION (13)		N/R											
TOTAL SUPPLY (10)		188	96	6	96	4	4						
SUPPLEMENTAL INFORMATION TIMEFRAME 05 82													
ESC APPLICANTS (9,10)		2	2		2								

N/R INDICATES THE AGENCY HAS NOT REPORTED THESE DATA TO THE MPOIS.
THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REQUEST 0722-01/1 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

ENROLLMENT SUMMARY

REPORT SD400-3
TIMEFRAME CURRENT (1981)
COVERAGE REGION B

TRAINING (12) 7393 AUTO MECHANICS III

SOURCE	ENROLLMENT
SECONDARY SCHOOLS-PUBLIC (1)	55
SECONDARY SCHOOLS-PRIVATE (1)	N/R
COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)	74
HIGHER EDUCATION-PUBLIC (4)	0
HIGHER EDUCATION-PRIVATE (11)	N/A
PRIVATE JUNIOR COLLEGES (11)	N/A
PROPRIETARY SCHOOLS	N/R
CETA (5)	0
WIN	N/R
JOB CORPS	N/R
APPRENTICESHIP	0
VOCATIONAL REHABILITATION (13)	N/R
TOTAL ENROLLMENTS (11,12)	129

N/R INDICATES THE AGENCY HAS NOT REPORTED THESE DATA TO THE MPOIS.
THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REQUEST 0722-01/1 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

ENROLLMENT SUMMARY BY SEX AND RACE

REPORT SD400-4
TIMEFRAME CURRENT (1981)
COVERAGE REGION B

TRAINING (12) 7393 AUTO MECHANICS III

SOURCE	SEX		RACE/ETHNIC					VET.	DISABL	COMP. ENROLL RATIO
	TOTAL	MALES	FEMALES	WHITE TOTAL	NONWHITE TOTAL	BLACK	HISPAN	INDIAN	OTHER			
SECONDARY SCHOOLS-PUBLIC (1)	55	55		55								
SECONDARY SCHOOLS-PRIVATE (1)	N/R											
COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)	74	64	10	67	7	7						
HIGHER EDUCATION-PUBLIC (4)	0											
HIGHER EDUCATION-PRIVATE (11)	N/A											
PRIVATE JUNIOR COLLEGES (11)	N/A											
PROPRIETARY SCHOOLS	N/R											
CETA (5)	0											
WIN	N/R											
JOB CORPS	N/R											
APPRENTICESHIP	0											
VOCATIONAL REHABILITATION (13)	N/R											
TOTAL ENROLLMENTS (11,12)	129	119	10	122	7	7						

N/R INDICATES THE AGENCY HAS NOT REPORTED THESE DATA TO THE MPOIS.
THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REQUEST 0722-01/2 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

LABOR SUPPLY DETAIL BY SOURCE

REPORT SD-01-1
TIMEFRAME CURRENT
COVERAGE REGION J

TRAINING (10) T030 SECRETARIAL-EXECUTIVE
SOURCE COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)

EMPLOYMENT

0000 0 PROJECTED 0000 0

DETAIL	DATE	SUPPLY
CENTRAL CAROLINA TC	12 81	22
DURHAM TI	12 81	2
JOHNSTON TC	12 81	6
WAKE TC	12 81	40
TOTAL SUPPLY (10)		70

THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REPORT SD401-2 LABOR SUPPLY DETAIL BY SOURCE AND SEX AND RACE
TIMEFRAME CURRENT
COVERAGE REGION J

TRAINING (10) T030 SECRETARIAL-EXECUTIVE
SOURCE COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)

DETAIL	DATE	TOTAL	SEX: MALES	SEX: FEMALES	RACE/ETHNIC: WHITE TOTAL	RACE/ETHNIC: NONWHITE TOTAL	NONWHITE: BLACK	NONWHITE: HISPAN	NONWHITE: INDIAN	NONWHITE: OTHER	VET.	DISABL	COMP. ENROLL RATIO
CENTRAL CAROLINA TC	12 81	22		22	12	10	10						
DURHAM TI	12 81	2		2	1	1	1						
JOHNSTON TC	12 81	6		6	6								
WAKE TC	12 81	40	1	39	30	10	10						
TOTAL SUPPLY (10)		70	1	69	49	21	21						

THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REPORT SD401-4 ENROLLMENT DETAIL BY SOURCE AND SEX AND RACE
TIMEFRAME CURRENT (1981)
COVERAGE REGION J

TRAINING (12) T030 SECRETARIAL-EXECUTIVE
SOURCE COMMUNITY COLLEGES, TECHNICAL INSTITUTES, TECHNICAL COLLEGES (2,3)

DETAIL		SEX		RACE/ETHNIC							COMP. ENROLL RATIO
	TOTAL	MALES	FEMALES	WHITE TOTAL	NONWHITE TOTAL	BLACK	HISPAN	INDIAN	OTHER	VET.	DISABL	
CENTRAL CAROLINA TC	58	0	58	38	20	20						
DURHAM TI	46	0	46	12	34	34						
JOHNSTON TC	27	0	27	23	4	4						
WAKE TC	97	1	96	74	23	22			1			
TOTAL ENROLLMENTS (12)	228	1	227	147	81	80			1			

THE NUMBER DESIGNATION FOLLOWING EACH SOURCE REFERS TO FOOTNOTES WHICH ARE PRINTED ON THE ATTACHED SHEETS OF PAPER.

REPORT SD405-1 LABOR FORCE ESTIMATES

COVERAGE REGION J

	CURRENT TOTAL	PRIOR REPORTING PERIOD	THIS MONTH LAST YEAR
LABOR FORCE DATA FOR MAY 1982			
NUMBER OF PEOPLE IN THE LABOR FORCE	385,920	387,220	359,690
NUMBER OF PEOPLE EMPLOYED	365,360	367,530	343,570
NUMBER OF PEOPLE UNEMPLOYED	20,560	19,690	16,120
UNEMPLOYMENT RATE	5.3	5.1	4.5

REQUEST 0722-01/3 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

REPORT SD405-2 ESC PLACEMENTS

COVERAGE REGION J

OCCUPATION 86038 1022 CARPENTER

EMPLOYMENT SECURITY COMMISSION (ESC) OCCUPATIONAL PLACEMENT RATES FOR MAY 1982

	CURRENT TOTAL	PRIOR REPORTING PERIOD
NUMBER OF PEOPLE REGISTERED WITH THE ESC	247	258
NUMBER OF JOB OPENINGS LISTED WITH THE ESC	14	7
NUMBER OF PEOPLE PLACED BY THE ESC	3	4
PERCENTAGE OF PEOPLE PLACED PER NUMBER OF PEOPLE REGISTERED	1.21	1.55
PERCENTAGE OF PEOPLE PLACED PER NUMBER OF JOB OPENINGS	21.43	57.14

82

83

REPORT SD415-1

OCCUPATIONAL CROSSWALK
TECH

INPUT CODE T054 - DENTAL HYGIENE

CODE TYPE		TITLE
SOC	3630	DENTAL HYGIENISTS
DOT	078.361-010	DENTAL HYGIENIST
OSP	4872	DENTAL HYGIENIST I
	4874	DENTAL HYGIENIST II
	4876	DENTAL HYGIENE REG COO
USOE	07.0102	DENTAL HYGIENE (ASSOCIATE DEGREE)
TECH	T054	DENTAL HYGIENE
SURVEY	35001	DENTAL HYGIENIST
MATRIX	10120402	DENTAL HYGIENIST

REQUEST 0722-01/5 NORTH CAROLINA STATE OCCUPATIONAL INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
REPORT DATE 07/22/82

REPORT SD410-1 THREE-DIGIT SIC (INDUSTRY) STAFFING PATTERN

INDUSTRY 175 CARPENTERING AND FLOORING

OES MATRIX CODE	O E S T I T L E	ESTIMATED EMPLOYMENT	PERCENT DISTRIBUTION	REVISED EMPLOYMENT	REVISED PERCENT DISTRIBUTION
10000000	*** TITLE NOT ON DATABASE ***	0	00.30	—,—	—.—
10240201	ACCOUNTANTS AND AUDITORS	1	00.65	—,—	—.—
10243808	COST ESTIMATOR, ENGINEERING				
20000000	*** TITLE NOT ON DATABASE ***	9	08.79	—,—	—.—
20061699	ALL OTHER MANAGERS				
30000000	*** TITLE NOT ON DATABASE ***	1	01.19	—,—	—.—
30000600	DEMONSTRATOR	1	01.19	—,—	—.—
30001899	ALL OTHER SALES AGENTS,ASSOCIATES,&/OR REPRESENTATIVES				
40000000	*** TITLE NOT ON DATABASE ***	3	03.15	—,—	—.—
40020200	SECRETARY	1	01.07	—,—	—.—
40060603	BOOKKEEPER,HAND	1	01.48	—,—	—.—
40066811	GENERAL CLERK, OFFICE				
50000000	*** TITLE NOT ON DATABASE ***	38	37.65	—,—	—.—
50020201	CARPENTER	0	00.12	—,—	—.—
50020601	BRICKLAYER	2	01.96	—,—	—.—
50022000	FLOOR SANDING MACHINE OPERATOR	3	03.44	—,—	—.—
50024001	TILE SETTER				

REPORT SD410-1 THREE-DIGIT SIC (INDUSTRY) STAFFING PATTERN

INDUSTRY 175 CARPENTERING AND FLOORING

OES MATRIX CODE	O E S T I T L E	ESTIMATED EMPLOYMENT	PERCENT DISTRIBUTION	REVISED EMPLOYMENT	REVISED PERCENT DISTRIBUTION
50024002	CEILING-TILE INSTALLER &/OR FLOOR LAYER	21	20.78	---,---	--.---
50040003	BLUE COLLAR WORKER, SUPERVISOR	0	00.24	---,---	--.---
50140400	CABINETMAKER	1	00.65	---,---	--.---
50140600	CARPET CUTTER AND/OR CARPET LAYER	15	15.20	---,---	--.---
60000000	*** TITLE NOT ON DATABASE ***				
61080200	ASBESTOS AND INSULATION WORKERS	1	00.89	---,---	--.---
62002201	TRUCK DRIVER	0	00.30	---,---	--.---
63000000	ALL OTHER SEMISKILLED WORKERS AND OPERATIVES	0	00.42	---,---	--.---
70000000	*** TITLE NOT ON DATABASE ***				
70020600	JANITORS AND SEXTONS	1	00.53	---,---	--.---
	TOTAL - INDUSTRY EMPLOYMENT (DUE TO ROUNDING, TOTAL EMPLOYMENT AND PERCENT OF DISTRIBUTION MAY NOT ADD TO THE GIVEN EMPLOYMENT OF 100 OR TO 100.00 PERCENT.)	99	100.00		

NOTE - COMPOSITE STAFFING WAS DERIVED FROM A BASE PERIOD EMPLOYMENT OF 1,684 IN NORTH CAROLINA INDUSTRIES IN CARPENTERING AND FLOORING

OCCUPATION 2900 REGISTERED NURSES

THESE PEOPLE PLAN HEALTH PROGRAMS, INSTRUCT PEOPLE IN HEALTH EDUCATION AND PREVENTION OF DISEASE, AND GIVE NURSING CARE TO PATIENTS

INTERESTS
2. DEALING WITH PEOPLE AS CLIENTS, CUSTOMERS, ASSOCIATES.
4. WORKING TO IMPROVE THE SOCIAL CONDITIONS OF OTHERS.
5. DIRECTING, ORGANIZING OR PLANNING AN ACTIVITY.
6. STUDYING OR COMMUNICATING ABOUT PEOPLE OR ANIMALS.
7. ANALYTICAL,SCIENTIFIC OR TECHNICAL WORK.
9. WORKING WITH MACHINES, EQUIPMENT OR PROCESSES.

APTITUDES
-ABOVE AVERAGE
G. GENERAL LEARNING ABILITY
V. VERBAL APTITUDE
-AVERAGE
N. NUMERICAL APTITUDE
S. SPATIAL PERCEPTION
P. FORM PERCEPTION
Q. CLERICAL PERCEPTION
K. EYE-HAND COORDINATION
F. FINGER DEXTERITY
M. MANUAL DEXTERITY

TEMPERAMENTS
4. WORKING INDEPENDENTLY AND TAKING RESPONSIBILITY.
5. GAINING THE CO-OPERATION OF CO-WORKERS, HELPERS OR CLIENTS.
6. INFLUENCING PEOPLE'S OPINIONS, ATTITUDES AND DECISIONS.
7. WORKING IN STRESSFUL OR RISKY SITUATIONS.
9. MAKING DECISIONS BASED ON CONCRETE EVIDENCE.
11. ENSURING THAT YOUR WORK MEETS STRICT STANDARDS.

EDUCATION LEVEL 2 YEARS POST SECONDARY FOR MOST JOBS. RANGE FOR ALL JOBS HIGH SCHOOL GRADUATE - GRADUATE OR PROFESSIONAL DEGREE.

INSIDE/OUTSIDE THESE JOBS INVOLVE INDOOR WORK.

ENVIRONMENTAL CONDITIONS A FEW OF THESE JOBS MAY INVOLVE WORK NEAR DUST, FUMES AND/OR ODORS.

EMPLOYMENT OUTLOOK EXCELLENT.

NORTH CAROLINA STATE OCCUPATION INFORMATION COORDINATING COMMITTEE
MULTI-PURPOSE OCCUPATIONAL INFORMATION SYSTEM
OCCUPATIONS SPECIFIC REPORT

OCCUPATION 2900 REGISTERED NURSES

BEGINNING SALARY	THE AVERAGE BEGINNING SALARY FOR MOST WORKERS IS $10,920 ($5.25/HR)
WAGE/SALARY RANGE	THE AVERAGE RANGE OF SALARY FOR MOST EXPERIENCED WORKERS IS $13,520 ($6.50/HR) UP TO $34,999
HOURS OF WORK/TRAVEL	MANY OF THESE JOBS MAY REQUIRE SHIFT WORK. MANY OF THESE JOBS MAY REQUIRE SOME EVENING OR NIGHT WORK. A FEW OF THESE JOBS MAY REQUIRE SOME WEEKEND WORK.
PHYSICAL DEMANDS	MOST JOBS - MEDIUM. RANGE FOR ALL JOBS VERY LIGHT - MEDIUM (UNDER 10 LBS - 50 LBS)
PHYSICAL ACTIVITIES	-REACHING/HANDLING/FINGERING/ FEELING -SPEAKING -HEARING -SEEING
TRAINING TIME	MIN 2 YRS./MAX 10 YRS. (FOR MORE DETAILS, ASK FOR THE 'STANDARD OCCUPATIONAL CLASSIFICATION BRIEF' FOR THIS GROUP.)
SIMILAR DOT OCCUPATIONS	075.124-010 NURSE, SCHOOL 075.124-014 NURSE, STAFF, COMMUNITY HEALTH 075.127-022 NURSE, SUPERVISOR 075.264-010 NURSE PRACTITIONER 075.371-010 NURSE ANESTHETIST 075.374-010 NURSE, GENERAL DUTY 075.374-018 NURSE, PRIVATE DUTY

***** BRIEF DESCRIPTION *****

*** ADDRESS	9101 FAYETTEVILLE RD, RALEIGH NC 27603
*** TELEPHONE	(919) 772-7500
*** GEOGRAPHIC LOCATION	PIEDMONT (WAKE COUNTY)
*** TYPE OF SCHOOL	COMMUNITY/TECHNICAL COLLEGE
*** STUDENT ENROLLMENT	2,400
*** FACULTY PROFILE	
BACHELOR'S DEGREES	37
MASTER'S DEGREES	39
DOCTORAL DEGREES	2
OTHER	22
*** FACULTY/STUDENT RATIO	1/18

***** ADMISSIONS INFORMATION *****

*** ADMISSION REQUIREMENTS

EDUCATION REQUIREMENTS	HIGH SCHOOL GRADUATE OR GED
APPLICATION FORM REQUIRED	YES
DEADLINE (FALL TERM)	08/20
TESTS REQUIRED	OTHER THAN SAT OR ACT
TRANSCRIPT REQUIRED	YES
APPLICATION FEE	$0
HOUSING DEPOSIT	$0
REGISTRATION FEE	$0

*** TO GET ADMISSIONS INFORMATION OR TO APPLY, WRITE OR CALL

ADMISSIONS OFFICER
WAKE TECHNICAL COLLEGE
9101 FAYETTEVILLE RD
RALEIGH NC 27603
TELEPHONE (919)-772-7500

***** COSTS (FULL TIME STUDENTS) *****

	IN-STATE	OUT-OF-STATE
TUITION AND FEES	$156	$792
ROOM AND BOARD	*	*
BOOKS AND SUPPLIES	$150	$150
OTHER REQUIRED FEES	$18	$18
TOTAL	$324	$960

(NOTE THAT ALL COSTS ARE SUBJECT TO CHANGE)

* - ON CAMPUS HOUSING NOT AVAILABLE

***** FINANCIAL AID *****

*** APPLICATION PROCEDURES
TO APPLY FOR FINANCIAL AID YOU MUST SUBMIT THE FOLLOWING FORMS

		DEADLINE	
	REQUIRED	NEW STUDENTS	RETURNING STUDENTS
SCHOOL APPLICATION	YES	NONE	NONE
STUDENT AID FORM OR FINANCIAL AID FORM	YES	NONE	NONE
PELL GRANT	YES	NONE	NONE
NORTH CAROLINA STUDENT INCENTIVE GRANT	YES	03/15	03/15

*** SOURCES OF FINANCIAL AID

COLLEGE WORK-STUDY PROGRAM (CWSP)
COLLEGE LOAN PROGRAMS
COLLEGE FOUNDATION GUARANTEED STUDENT LOAN PROGRAM (GSLP)
PELL GRANT
SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (SEOG)
NORTH CAROLINA STUDENT INCENTIVE GRANT (NCSIG)
SCHOLARSHIPS IN INDIVIDUAL DISCIPLINES

(FOR MORE DETAIL ON THE SOURCES, SEE THE COLLEGE CATALOG.)

*** NUMBER OF STUDENTS RECEIVING FINANCIAL AID 556
*** AVERAGE FINANCIAL AID AWARD PER STUDENT RECEIVING AID $758

*** FOR MORE INFORMATION ON FINANCIAL AID OR TO APPLY, WRITE OR CALL

FINANCIAL AID OFFICER
WAKE TECHNICAL COLLEGE
9101 FAYETTEVILLE RD
RALEIGH NC 27603
TELEPHONE (919) 772-7500

***** HOUSING *****

	YES	NO	NOT REPORTED
ON-CAMPUS HOUSING AVAILABLE		X	
OFF-CAMPUS HOUSING AVAILABLE		X	
MARRIED HOUSING AVAILABLE		X	
STUDENT RESPONSIBLE FOR OWN HOUSING	X		

***** LIBRARY FACILITIES *****

ESTIMATED NUMBER OF VOLUMES	30,558
NUMBER OF PERIODICAL SUBSCRIPTIONS	282
MICROFILM/FICHE FACILITIES AVAILABLE	YES

***** SERVICES FOR DISABLED PERSONS *****

	YES	NO	NOT REPORTED
BUILDING ACCESS	X		
CAMPUS HOUSING ACCESS	NOT APPLICABLE		
REGISTRATION ASSISTANCE	X		
TUTORS		X	
INTERPRETERS FOR THE DEAF		X	
LEARNING AIDS	X		
DESIGNATED PARKING	X		
COUNSELING SERVICE	X		
TRANSPORTATION FOR THE MOBILITY IMPAIRED		X	

***** ACCREDITING AGENCIES *****

SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS
SOME SPECIFIC PROGRAMS ARE ACCREDITED BY VARIOUS NATIONAL ORGANIZATIONS

***** GRADUATION AWARDS *****

*** THIS INSTITUTION OFFERS THE FOLLOWING GRADUATION AWARDS

CERTIFICATE (1-3 QUARTERS VOCATIONAL)
DIPLOMA (4-8 QUARTERS VOCATIONAL)
ASSOCIATE DEGREE (TECHNICAL)

***** PROGRAMS OF STUDY OR TRAINING OFFERED *****

*** BUSINESS AND COMMERCE TECHNOLOGIES

5002A ACCOUNTING (AAS)
5004B BUSINESS ADMINISTRATION (AAS)
5005C SECRETARIAL-EXECUTIVE (AAS)
5005D SECRETARIAL-LEGAL (AAS)
5005E SECRETARIAL-MEDICAL (AAS)

*** DATA PROCESSING TECHNOLOGIES

5101A ELECTRONIC DATA PROCESSING-BUSINESS (AAS)
5105A COMPUTER TECHNOLOGY (AAS)

*** HEALTH SERVICES AND PARAMEDICAL TECHNOLOGIES

5205A MEDICAL LABORATORY TECHNOLOGY (AAS)
5207A RADIOLOGIC TECHNOLOGY (AAS)
5209A NURSING OPTIONS IN PN AND ADN (AAS)
5214F NURSE ASSISTANT (CERT)

*** MECHANICAL AND ENGINEERING TECHNOLOGIES

5303E DRAFTING-MECHANICAL (DIPL)
5304A ARCHITECTURAL TECHNOLOGY (AAS)
5305A CHEMICAL TECHNOLOGY (AAS)
5306D AUTOMOTIVE MECHANICS (DIPL)
5307D HEAVY EQUIPMENT MECHANICS (EARTH MOVING) (DIPL)
5308B WELDING (DIPL)
5309A CIVIL ENGINEERING TECHNOLOGY (AAS)
5310B ELECTRONICS ENGINEERING TECHNOLOGY (AAS)
5310D ELECTRONIC SERVICING (DIPL)
5312A INDUSTRIAL ENGINEERING TECHNOLOGY (AAS)
5315B MACHINIST (DIPL)
5315C TOOL AND DIE MAKING (DIPL)
5317B AIR CONDITIONING AND REFRIGERATION (V-024) (DIPL)
5317G ELECTRICAL INSTALLATION AND MAINTENANCE (DIPL)
5317J PLUMBING AND PIPEFITTING (DIPL)

*** PUBLIC SERVICE RELATED TECHNOLOGIES

5504A LIBRARY ASSISTANT (AAS)
5505A POLICE SCIENCE (AAS)

Footnotes on NCSOICC MPOIS Computer Printouts

1. All the graduates from secondary school vocational programs do not enter the labor market. Many continue their education; others enter the military.

2. Community colleges do not serve the same counties which are included in the multi-county planning regions.

3. Many community college students already have a job. The training they receive at a community college upgrades the skills needed for their current job or prepares them for the next job up the career ladder.

4. The figures for higher education include non-residents.

5. CETA training programs tend to be of a shorter duration than other training programs. Some CETA clients participate in additional training programs and may be counted in each one.

6. The figures in this table have been compiled from data provided by the indicated sources and have been aggregated or disaggregated in order to reflect, given the stated limitations, the occupational supply and demand in the taxonomy code indicated. In addition, every program completer does not enter an occupation that has been matched to the training program. All program completers do not look for a job, and some individuals may be included in more than one source.

7. The job needs estimates were derived from a procedure which did not include agriculture employment, the self-employed, or the unpaid family members in a family-operated business. The job needs estimates do not include individual job openings which are created by turnover.

8. The turnover of labor within an industry probably produces many of the job openings available in an occupation. Turnover does not represent growth and replacement (job needs) in the occupation, but rather the openings created by the normal dynamics of hiring, termination, transfers, layoffs, quits, and promotions. An occupation may show little or no job needs even thought there may be many job orders and applicants at Employment Security offices. There will be cases where the supply of trained workers from vocational education, higher education, and CETA programs will exceed the projected demand for the occupations, yet follow-up data on related placement in that occupation will not indicate an excess of supply. A certain amount of turnover can indicate a greater number of employment opportunities than those indicated by job needs. A high turnover rate could indicate that the long-term demand figures do not fully represent the dynamic demand for that occupation. An excessively high turnover rate may be an indication of factors which make the occupation undesirable and thus not well-suited as an employment goal for a program participant seeking economic stability. (Labor turnover information is available by industry only, and is not collected, calculated, nor published by occupation.)

9. Based on the discretion of interviewers, ESC applicants are classified by their stated work experience and not by a proficiency test.

10. The figures in this table have been compiled from data provided by the indicated sources and have been aggregated or disaggregated in order to reflect, given the stated limitations, the current occupational supply in the taxonomy code indicated.

11. At this time private higher education enrollment information, by program code, is not available (N/A) from a centralized source.

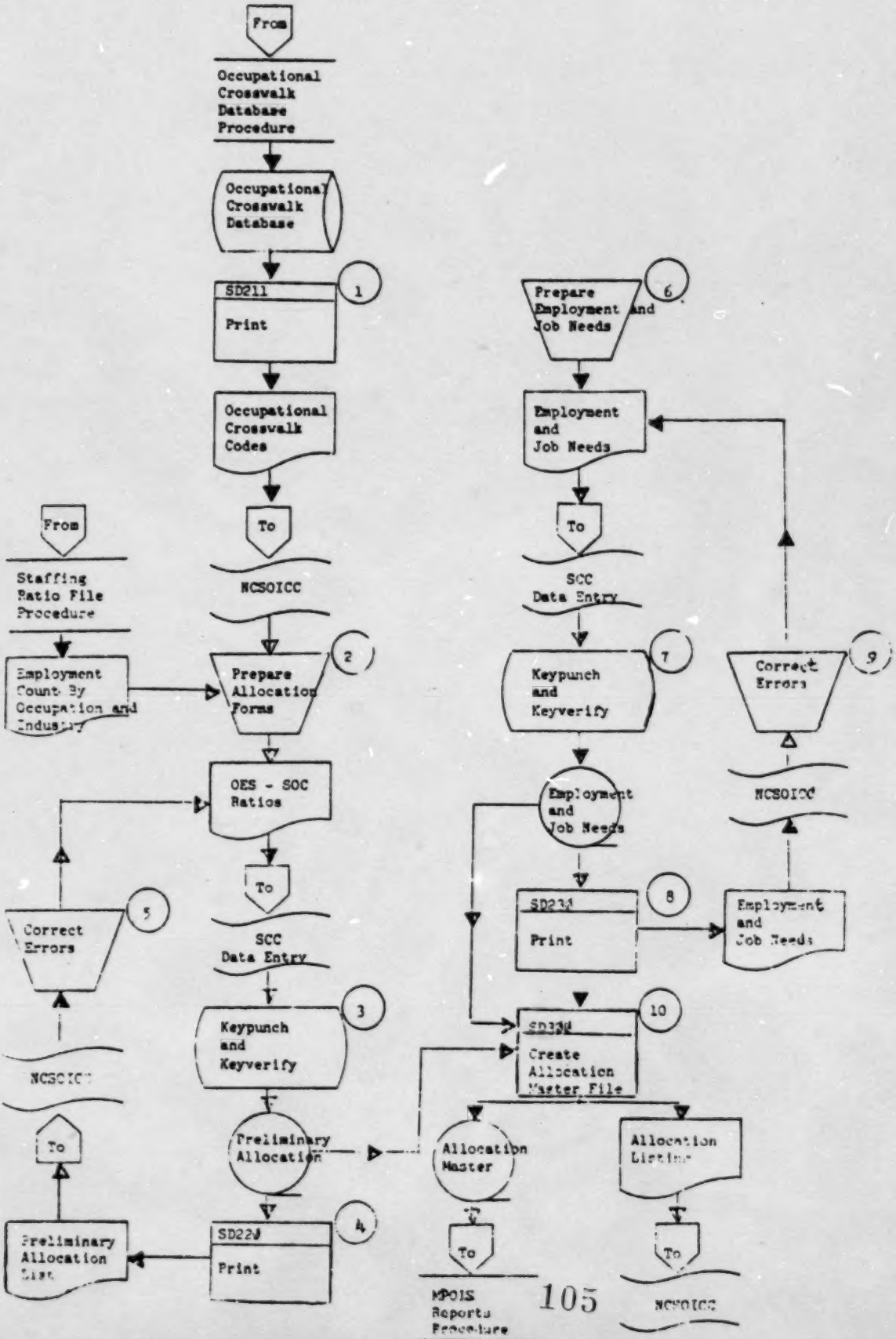
12. The figures in this table have been compiled from data provided by the indicated sources and have been aggregated or disaggregated in order to give an indication, given the stated limitations, of what may be the future occupational supply in the taxonomy code indicated.

13. The Division of Vocational Rehabilitation Services has provided data to the MPOIS. However, the data are in a Federally mandated format that is not usable in the MPOIS at this time.

APPENDIX D

MPOIS ALLOCATION MASTER FILE

SYSTEM CREATION AND MAINTENANCE
ALLOCATION MASTER FILE



APPENDIX E

SOICC COMMITTEE - APRIL 1982

SOICC COMMITTEE - APRIL 1982

Jane Patterson, Chair
Department of Administration

Henry McKoy, Alternate Chair
Department of Administration

Dr. Marcus Allred
Department of Community Colleges

Jerry Beaver
Department of Public Instruction

Preston Johnson
Employment Security Commission

Jim Lott
Employment and Training Council

Bob Philbeck
Vocational Rehabilitation Services

APPENDIX F

TECHNICAL ADVISORY COMMITTEE

APRIL 1982

TECHNICAL ADVISORY COMMITTEE - APRIL 1982

Don Brannon
Department of Public Instruction

Dave Garrison
Employment Security Commission

Bruce Hudson
Employment and Training Council

Joe Morrow
Vocational Rehabilitation Services

Ken Oleson
Department of Community Colleges